

# The Boston Medical and Surgical Journal

## TABLE OF CONTENTS

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THE MASSACHUSETTS MEDICAL SOCIETY.	
PAPERS AND DISCUSSIONS OF THE SECTION OF HOSPITAL ADMINISTRATION.	
THE USE OF PATHOLOGICAL MATERIAL IN SMALL HOSPITALS.	195
By John F. Kenney, M.D., Pawtucket, R. I.	197
DISCUSSION OF DR. KENNEY'S PAPER.	197
WHAT MEDICAL AND SURGICAL STATISTICS SHOULD BE PUBLISHED IN THE ANNUAL HOSPITAL REPORT? By David Cheever, M.D., Boston.	199
DISCUSSION OF DR. CHEEVER'S PAPER.	202
THE PLACE OF THE FULL-TIME AND PART-TIME PHYSICIAN IN THE MODERN HOSPITAL. By Roger I. Lee, M.D., Cambridge, Mass.	204
DISCUSSION OF DR. LEE'S PAPER.	207
ORIGINAL ARTICLES.	
THE REGISTRY OF BONE SARCOMA AND MEDICAL HUMAN NATURE. By E. A. Codman, M.D., Boston.	208
THE TREATMENT OF ASTHMA. By Francis M. Rackemann, M.D., Boston.	211
VIOLET RAY IN THE TREATMENT OF VARIOLA. By Pasquale Roman, M.D., Bridgeport, Conn.	215
MEDICAL PROGRESS.	
PROGRESS IN SYPHILOLOGY. By Austin W. Cheever, M.D., Boston.	216

BOOK REVIEWS.	
THE INTERNATIONAL MEDICAL ANNUAL.	219
TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION.	220
CURRENT LITERATURE DEPARTMENT.	
	220
MISCELLANY.	
INFORMATION SERVICE OF THE ROCKEFELLER FOUNDATION.	221
EDITORIALS.	
VITAL STATISTICS OF MASSACHUSETTS FOR 1921.	222
SCHOOL HEALTH SUPERVISION.	223
THE STATE ASSOCIATION OF BOARDS OF HEALTH.	224
THE EFFICIENCY OF ARSPHENAMINE AND NE-ARSPHENAMINE.	225
RURAL HEALTH SERVICE.	225
CHIROPRACTORS ADVERTISING IN CHURCHES.	225
NEWS ITEMS.	226

THE MASSACHUSETTS MEDICAL SOCIETY.	
MEMBERSHIP CHANGES FOR THE MONTH OF JULY, 1922.	226
CORRESPONDENCE.	
WALTER REED GENERAL HOSPITAL OFFERS A COURSE IN PHYSIOTHERAPY. K. F. Kesmodel.	228

## The Massachusetts Medical Society.

### PAPERS AND DISCUSSIONS OF THE SECTION OF HOSPITAL ADMINISTRATION.

AT ITS MEETING AT THE HARVARD MEDICAL SCHOOL, BOSTON, JUNE 13, 1922.

#### THE USE OF PATHOLOGICAL MATERIAL IN SMALL HOSPITALS.

By JOHN F. KENNEY, M.D., PAWTUCKET, R. I.

It would be more interesting and far more instructive if this subject were discussed within the four walls of my complete little laboratory in the Memorial Hospital at Pawtucket, R. I. Since we cannot treat it in a concrete way, I will endeavor to give you a fair idea of what we have accomplished in this particular hospital along pathological lines.

Let us take up the subject under three heads: first, the laboratory proper; second, the director and laboratory workers; third, the work that can be done in a small laboratory. To start a laboratory requires only a small amount of money. It is surprising to see what one thousand dollars will do towards equipping a laboratory. All you need at the outset is a room with good lighting and proper plumbing. In my present laboratory we started without even these essentials but made our improvements as we went along. My advice is to start on a small scale and equip yourself as you find the need for it.

In selecting your room, if you have a choice of position make it as close to the operating room as possible, as such a position is very convenient in doing section work. In addition to the laboratory proper, a small animal house in a remote part of the hospital grounds or even on the roof is essential and a morgue for autopsies is, of course, very necessary, while light and ventilation are supremely important factors. While in the army I found from actual experience that a laboratory can be started and in working order in a surprisingly short time. In two instances I was sent to a camp or post with orders to start a laboratory. Upon arriving, in each instance the commander led me to a certain part of the hospital building and pointing to an empty room, informed me that that particular room was to be the laboratory. It was then entirely my own problem. In a short time the room was completely transformed, so that we were able to take care of this branch of the work which was of the utmost importance.

No matter how large or small the hospital, its laboratory director should be a physician. No technician should be given complete charge of a hospital laboratory, for, although a pathologist may, in many cases, be perfectly competent to discover that tests are necessary and to carry them out successfully, yet the training of a physician is essential for diagnosis and for advice as to treatment. Consequently, a physician as laboratory director is, in my opinion, a *sine qua non*. The director should perform all au-

topsies. He should himself interpret all results and reports before they leave the laboratory, except in an emergency. For instance: The technician may report a 2+ positive cholesterin in a patient who had just been under treatment but, if she reported the same in a case without any clinical symptoms, she would not be in a position to request further investigation and discussion with the doctor in charge, as she, in her position, is not required to know all the stages of syphilis and its peculiarities. In other words, she can do things mechanically and make reports of what she finds, but what a staff needs is a medical man to co-operate and advise. For example, in a case suspected of malaria or typhoid, if an increased white count were found, the doctor pathologist, because of his medical training, would know at once that malaria must be eliminated as a possibility, and would suggest other means and tests to arrive at a diagnosis in the incomplete case. This is only one of the numerous cases where the co-operation of a physician would be beneficial.

Remember, I am talking entirely of the smaller hospitals where it will be quite possible to obtain the services of a physician for part time work in the laboratory. Under this arrangement he may spend some time each day in the laboratory to give instructions, make reports, etc. In case he is needed, he will be available and is at all times a consultant. I know of no better way for a physician to start in practice than to ally himself with one of these positions. In his own practice he is much more efficient, especially if he has the pathological training; and above all he has confidence in himself because of this superior training. Nowadays, many of the hospitals are giving internships of one or two years in the laboratory. I know a number of men who settled in different sections of New England after a training of this kind and who have positions where they are able to make their own tests. These men have built up a private practice much greater than the men who were trained in clinical work alone. Many men in practice have not as yet availed themselves of the advantages and the advances made in laboratory aids to diagnosis. The World War was an important thing to these men as in every camp of any size the government furnished laboratories in charge of competent men. Because of the importance of this work, the hospital should pay the director the best salary possible according to its size. The average should be from one to two thousand dollars a year. Some days the physician may be obliged to spend several hours in the laboratory and other days he may be needed only minutes; nevertheless, he is always on call and ready for emergencies and is, therefore, entitled to a reasonable salary.

The technician is always a problem, as some are well trained and others have only a moderate training. However, any intelligent girl with some bacteriological sense can be taught labor-

atory work, and a year's course in theory is an excellent start, for she can be trained later by the director in the branches in which she is not already proficient. Many colleges give special courses in this line and have excellent results. However, I have discovered that nurses make especially fine technicians on account of their familiarity with the hospital routine and I have, therefore, advised that laboratory work in a general way, be included in every nurse's training. Having secured a good technician, pay her well. Otherwise, your smaller hospitals will be continually training girls who will leave as soon as they are able to command a higher salary in a larger hospital.

The work that can be done in a small laboratory is extensive and I believe of the greatest importance. To begin with, the laboratory checks up the operating room and wards on all sterile goods, materials, etc. Wassermann reactions should be carried out as a routine on all patients admitted wherever practicable. Many obscure cases of syphilis that would otherwise be overlooked until after operation are discovered in this way. One case in particular of non-union of fracture made a good recovery after a plus finding and anti-syphilitic treatment. It is not difficult to have your own sheep and amboceptor from your own rabbits. Make your own complement from guinea-pigs, for these animals do not require much care and add very little expense to your laboratory. Guinea-pig inoculations are used also in T. B. cases or in renal diseases. Some of the other routine work done in the laboratory are blood-typing for transfusions, blood urea and blood sugar determinations and tests for cavity fluids, renal functions, smears, stomach contents, stools, blood cultures, spinal fluids, and Widal's. Let me now show you the vital connection between the laboratory and the hospital proper. All new cases in the children's ward should be isolated until a report is sent back that the throat cultures and vaginal smears are negative. All typhoid cases should have routine stool examinations and should not be discharged until negative. A check should also be made on the milk supply and in this way the hospital is protected from an impure supply. Frozen sections should always be available for the surgeon, but notice in advance should be given the pathologist so that he can be on hand at the time of the operation. It is unnecessary to take up in detail all the phases of the work that can be done in any laboratory, no matter how small. In my opinion, it is as necessary to the hospital as is the operating room.

In regard to autopsies, I believe that everyone connected with the hospital, from the superintendent down, should be interested in doing his share in obtaining them. As we all know from experience, people are loath to sign permits for autopsies, but they are so essential that all should bend their energies toward obtaining a

permit when the case is in any way remarkable. As many nurses and physicians as possible should attend each autopsy as it is on the autopsy table that we learn what we might have done. The completion of the autopsy report and records is important, but it should not rest with that, for each case should be taken to the staff meeting and there discussed.

The maintenance of a laboratory is not such a big financial problem. It should not be considered a producing department any more than a public ward should be. A charge to each patient admitted of from one to four dollars for a ward patient and a minimum of five dollars for private patients, with an extra charge for other tests done, has been carried out successfully by us. In this way a revenue that helps to support the laboratory but does not completely cover all expenses is obtained. We have seventy beds in our hospital and our last year's report shows seven thousand, seven hundred and seventy tests. We have the advantage perhaps of having a majority of our staff connected with the larger hospitals in a bordering city and naturally you would expect them to be up in the modern methods of diagnosis. But, in any city or town where a hospital is located the same advantages and methods are available. The entire outlay for a laboratory, together with the expenses for running it, costs less than any other branch or hospital department, and I venture to say that no branch is more important. Any hospital of any size should have and can have a laboratory. Educate the men on the staff to use it and better results will be obtained in treating the patients and it will make more proficient medical men. Every test made in the larger hospitals can be made in a small hospital. Many hospitals have no laboratory facilities at all. They run a large overhead expense, build substantial buildings, have beautifully kept grounds, and no laboratory. I have in mind one hospital with a complete staff, in a city of about forty thousand. I don't believe they have even a microscope. They depend on a state laboratory, which is some distance away, to take care of their work. In these progressive times this seems to me an injustice to the people of a community. Let us hope that in the future every hospital, old and new, large and small, will be equipped with a laboratory.

#### DISCUSSION.

DR. CYRUS C. STURGIS, Boston: I think Dr. Kenney has mentioned one very important part of the work of the laboratory of the small hospital, and that is autopsies.

I have no general statistics available, but all the small hospitals that I know anything about either have a very low autopsy record, or make no attempts at all to obtain them. Just why this condition exists I don't know, but it seems to me that they must either fail to appreciate the value of autopsies, or they are not using proper methods in obtaining them.

In the 1920 report of the Chicago Academy of Medicine, some 25 or 30 hospitals in Chicago were investigated and it was found that the autopsy record in these hospitals varied from 48 per cent. down to

none at all in nine hospitals. The highest, I believe, was the Presbyterian Hospital of that city. Of the nine hospitals with no autopsies, the majority were small hospitals. Only a few weeks ago, in talking with a representative of a hospital in the Middle West about autopsies, he remarked that he made an attempt to get autopsies only in interesting cases. I think really the most valuable autopsies are those cases which may appear very commonplace from the clinical standpoint, and therefore the thing to do is to attempt to get autopsies in every instance. Of course it is impossible to get 100 per cent., but I believe just the routine asking of the relatives of every patient who dies would give us 25 or 30 per cent. at least.

Now there are plenty of illustrations of how very commonplace cases may prove to be of great value when autopsy is done. Just within the past few weeks at the Peter Bent Brigham Hospital we have had some striking ones. A man was in the hospital five days and died at the end of that time with a diagnosis of acute nephritis, and there was very good evidence to substantiate it. An autopsy was made and the man was found to have typhoid fever with an intestinal perforation. Another case on the surgical side was that of a patient who had an acute appendicitis, was operated on, and died on the operating table. The assumption was, though there was no evidence particularly to support it, that the patient died of too much ether. At autopsy a pituitary tumor was found. Those are just cases that have happened recently.

Every physician ought to appreciate the value of autopsy. Needless to say, the staff that does not get the advantage of co-relating their clinical studies with autopsy findings misses a great deal. The pathologist's part adds just as much to the care of patients as the other laboratory work, such as X-rays, etc.

As to the method of getting autopsies, I should like to tell you of our experience at the Peter Bent Brigham Hospital. Our record on the medical service for the four years previous to 1920 averaged 42 per cent. The first few months of 1920 the autopsy record commenced to fall and got down to almost 25 per cent. At that time a campaign was started to obtain more. We used simple means; in the first place instructing each house officer to ask for permission for autopsy in every single death. Failing to obtain permission, he was to call the resident physician. The record of every death was made to show who was responsible for trying to get the autopsy, whether or not he could get it, and if not, why. Each house officer during his senior term kept a record of the number of autopsies he was able to obtain, and his percentage of autopsies was figured up and given publicly. Since that time we have had 66 per cent. autopsies. For the six months of 1922 the percentage on the medical side has been 76 per cent. One man who is just finishing his senior house officer's term now has an autopsy record of 31 out of 38 deaths, or 81 per cent. This shows that a little enthusiasm and energy put into the work really counts. A small hospital can do it just as well as a large, if the effort is made systematically.

This is a very proper section in which to discuss this matter. I am glad it came up. I believe the superintendent and the administrative staff of the hospitals are largely responsible for success or failure in obtaining autopsies. If they are opposed to autopsies you will not get any; if they are indifferent you will get a few; if they are interested and enthusiastic, you will get many.

DR. P. W. GOLDSBURY, Deerfield: How far are physicians informed, so that they can benefit by any public autopsies or findings of this sort?

DR. KENNEY (answering Dr. Goldsbury's question): I might as well discuss autopsies here now. We went down to eight per cent. in our hospital, and we have, as I said, a 70-bed hospital. It was simply that some

of the men were indifferent. There were only two internes, and of course a surgeon cannot be on the job all the time. It might happen that you could not find the interne on the medical service and the surgical interne did not bother about it. So finally we got the trustees to get into the game. Sharp letters were sent to all the men on the staff, and it is surprising that since January first of last year our autopsies are up pretty close to 50 per cent. The superintendent is also supposed to look after them if she possibly can.

I recall a case that was sent in by a man who happened to be the local medical examiner. The superintendent tried to get an autopsy, but found that the people absolutely refused to have anything to do with anyone connected with the hospital. It was not impressed upon them that something might be found that would be of value to the medical profession in general, so finally the local physician was sent for, appealed to by the surgeon, made a call before they took the body away from the hospital, and finally came back with a signed permit.

Notice of the autopsies are posted on the bulletin board so that the men on the staff will know about them when they come. We cannot publish it in time to get all the local physicians, but most of them are interested in medical matters, and when the man who sent in the case is notified, he is told to bring in any others that he may desire.

**DR. W. H. MERRILL, Lawrence:** The Lawrence General Hospital, a hospital with 125 beds, has an arrangement with the laboratory of Tufts College Medical School for the examination of pathological material. I have not been told about the expense, but it is so much for a certain number of examinations. The hospital has a resident technician, and the consulting pathologist does not have time to devote to such details as seem necessary.

**DR. H. P. STEVENS, Cambridge:** I might say a word in regard to the Cambridge Hospital. They have a contract with the Harvard Medical School, Department of Pathology. It has proven very satisfactory. Of course the Cambridge Hospital is near enough so that material can be sent by messenger, and we get reports back very promptly. The same contract provides us with a pathologist for autopsies, and the hospital has never had a resident pathologist. I don't know what it costs, but it is not expensive, and for a hospital within easy access it is a very good arrangement.

Of course where we want immediate frozen sections, that is outside of the contract, and we have to send for a pathologist for the occasion, and we make use of such service to some extent. There is a similar contract for the more elaborate laboratory tests. The hospital makes no effort to do anything but ordinary routine laboratory work, and all other tests are done under a contract with the school.

**DR. H. G. STETSON, Greenfield:** That is the one thing that was in my mind when I saw the title of this paper. We have a small hospital, but no arrangement whatever for careful microscopical examination of any organs removed, and the only arrangement is a personal arrangement which I have with Dr. Wright. It is some years since I made this arrangement, and it has continued to be satisfactory. It came out of a desire or a wish that we could utilize more of the pathological material removed not only at autopsies but at operations. We are not able to have a pathologist any more than any other small hospital unless it has an enormous endowment. But in any hospital some arrangement could be made with a laboratory whereby this service could be given.

**DR. P. H. LEAVITT, Brockton:** In Brockton our situation has been largely the same as that described by the three gentlemen who just spoke. We have a small private hospital of forty beds and no resident

pathologist. We have a laboratory, a medical man to look after the ordinary laboratory work, having a very competent bacteriologist at City Hall do the Wassermanns, but the examination of the fresh specimens has been our bugbear. We now, however, have a satisfactory personal arrangement with Dr. Mallory whereby the specimens are examined.

My purpose in rising was to ask whether the diagnosis of fresh specimens by a man doing part laboratory and part general practice was in all cases as accurate as could be desired. We found, trying it out a few years ago, that when diagnosis was made by the part-time pathologist and then later checked up by the consulting pathologist, the results did not always agree. Everybody would, I am sure, be very much interested in finding a part-time pathologist who could absolutely be depended upon. Are there many of them about?

**DR. KENNEY (answering question of Dr. Leavitt):** Answering that question, of course that is true about everything you would take up. It depends upon the man you get.

With regard to the diagnosis, if a man is interested in pathological work, he won't have to put in a lot of time. The majority of men are interested in some one specialty. For instance, we have through Rhode Island a number of men, a medical man, a surgeon, perhaps a nose and throat man, who will employ a technician together and establish a laboratory, employing perhaps a full-time man if they are in possession of their own laboratory. They get satisfactory service in this way.

In regard to the part-time man, every now and then you will find some man starting out in practice who would like a location. In your city of Brockton you might find a man who would want to locate there, perhaps a younger man who had had some laboratory training. In the Rhode Island Hospital there is a pathologist in charge and for two years he has been doing nothing but pathological work, but several laboratories have the younger men who want part-time work. The pathologist at the Springfield Hospital is a man with training under Dr. Mallory.

About the frozen section work; if a man is interested at all he is going to try to keep it up, and begin in frozen section work as well as the other branches.

With regard to sending specimens to the Harvard Medical School and other hospitals, arrangements made that way are very good and you accomplish a great deal more than if you had a technician and no supervision. There are so many things you can do, however, if you have your own laboratory and pathologist. For instance, a man wants a checking up of blood urea and blood sugar. He has the goods right there, calls in, leaves the order, and the next day the case is taken care of and you don't have to send out. Of course it takes more time to send to another laboratory, and perhaps it is a case of waiting for operation, so if you have to send to a State laboratory, for instance, it takes quite a good deal of time if you have to wait.

In our hospital perhaps 70 per cent. of the cases are surgical, and we are getting a routine of perhaps 300 specimens sent to the laboratory. We have a routine of sending everything, just as in the autopsy work, for sometimes the most unimportant cases apparently turn out to be important. All this takes a man who must be interested in that work.

It is a good idea to try to get a man who can give full time at first, and then part time, gradually getting away from it and letting some other man get into it. But of course with frozen sections a man has to keep up with his work.

**DR. J. B. HOWLAND, Boston:** There is no doubt that in the last few years there has been a decided change in the attitude of hospitals towards getting post-mortems. I think most of them have felt that the Hebrews have been against granting autopsies be-



cause of religious scruples. I was pleased to see, however, that the Trustees of one of the Jewish hospitals in New York have just passed a resolution favoring the making of autopsies. There is also an interesting article in the "*Modern Hospital*," May, 1922, by Dr. Bluestone, Assistant Director of the Mt. Sinai hospital in New York, describing methods whereby that institution gets a large percentage of autopsies from their patients, who are largely Jewish.

I was hoping that some one would discuss the subject of the procedure of handling pathological material in hospitals that have no pathologist. I am confident that there is often an arrangement between small hospitals in Massachusetts whereby pathological material is sent to the Harvard Medical School to be examined.

I believe that by writing to the pathological department of the Harvard Medical School, Superintendents of small hospitals can make arrangements to have pathological specimens sent there for diagnosis.

I would like to ask Dr. Kenney whether he thinks that year or two that the man stays in the pathological work is sufficient so that one can rely upon his diagnoses?

DR. KENNEY (answering Dr. Howland's question and closing): That would depend where he received his training. If he had had a lot of section work in a large hospital he would have training enough to be relied upon.

#### WHAT MEDICAL AND SURGICAL STATISTICS SHOULD BE PUBLISHED IN THE ANNUAL HOSPITAL REPORT?

By DAVID CHEEVER, M.D., BOSTON.

THAT the question of hospital statistics has long been agitated is attested by the fact that, in 1860, Florence Nightingale<sup>1</sup> proposed a plan for uniform hospital statistics and a nomenclature of diseases, to the Fourth International Statistical Congress, in London.

An outstanding tendency in modern medicine is that having to do with the evaluation of existing methods and practices and the more or less wide adoption of standard practices throughout the country. The hospital standardization movement, the effort to standardize the practice of surgery by the American College of Surgeons, to standardize medical schools by the Rockefeller Foundation, to standardize end-results of hospital treatment, to standardize the nomenclature of diseases, are familiar examples. Indeed, so pronounced is the tendency that the individualist might feel anxiety at the prospect of a prescribed level of respectable attainment, and the loss of the occasional flash of brilliancy attained by untrammelled individualism.

It is natural that hospital librarians, executives and staff, resting from their labors at the close of the "open season" on the compilation of reports, should wonder whether their labor has been worth while and whether changes in the system should not be made.

What information should the annual report aim to give and make into a permanent record? The hospital might be regarded as an organization which receives certain raw materials and

aims to turn out a certain finished product, and it would certainly appear reasonable that a report of the year's work should include a statement of the raw materials and of the results accomplished. But as a proper tribute to the founders and benefactors of the institution, it is thought essential that a brief account of its founding and history shall be given, together with a list of benefactions. A list of those who have served it in the past helps to awaken the interest of the public; the list of those in its present employ naturally follows. The treasurer feels it to be his duty to account for his stewardship by a list of the invested funds, and a statement of income and expenditures; the superintendent or administrator presents the details, financial and otherwise, of his affairs. The pressing needs of the institution are set forth to excite the generosity of its friends. The vital statistics of the patients admitted are justly important from a social economic point of view, so tables of age, sex, nativity, color, social condition, occupation, etc., are laboriously presented. Finally, the account of the function for which the hospital exists, namely, the cure of disease, is given in the form of statistical tables which indicate the number of individuals of each sex afflicted with each variety of disease, whether the application of surgical methods was made or not, and the result as expressed in the general terms "well," "relieved," "not relieved," or "dead."

Thus was evolved the complex, costly and little read hospital report of today, consisting of hundreds of pages of laboriously prepared data. What is the circulation of these volumes and what, in general, their final disposition? Who reads them? Local inquiry in Boston does not encourage an impression that they are regarded as important. Doubtless each hospital has a complete file of its own reports, but no local hospital, with one exception, pretends to keep files of its sister institutions, yet one would suppose that precisely to hospital administrators would appeal to greatest degree the records of the others. At the Massachusetts General Hospital it is the aim to have complete files of the reports of all New England hospitals, and of as many as possible of the major hospitals of the country. At present there are complete files there of ten or twelve major hospitals in recent years, and this is the most complete collection in Boston. At the Boston Medical Library there is no pretense at filing and cataloging the reports. In the libraries of the Massachusetts General Hospital, the Boston City Hospital and the Boston Medical Library it was reported that there is no call for these reports; the occasional inquirer seeking them usually for a name or an address. At the Boston Public Library, the library of Harvard University and the Boston Athenaeum they are not preserved. The library of the Harvard Medical School is glad to receive these reports and catalogues them, but the files

are far from complete. It is here, apparently, that most use is made of them, for students, especially during their fourth year, frequently consult them in order to ascertain the amount and general character of the work done at the hospital, with a view to making up their minds where they had better apply for interne positions. The library of the Surgeon General's Office, in Washington, as would be expected, "maintains a very complete file of all this material, and it is estimated that the annual reports of about 800 hospitals are on file in the Document Division. While the demand for these reports is not as large as for current medical literature, it is sufficient more than to justify the attempt to make these files complete."<sup>2</sup>

The volumes are sent to the managers and trustees, to the members of the visiting staff, to the former house-officers, to friends and benefactors, past and prospective, to members of the city government if the institution be a municipal one. It is safe to say that not one recipient in a hundred does more than to glance idly at the pages. Perhaps the banker looks at the investments, the executive manager reads details of administration and the per capita per day cost, the philanthropist may read of the annual deficit and of the needs of the institution, and the physician glances at the medical and surgical statistics and perhaps examines with real interest the mortality rate of some particular disease or surgical operation.

The elaborateness of reports of large hospitals in recent years is scarcely realized except by those who compile or study them. The report of the Massachusetts General Hospital for 1916 was a handsomely printed volume of 567 pages. The list of occupations of patients occupied 14 closely printed pages and included about 575 occupations of men, and half as many again of women. With all the enthusiasm in the world for the study of the relation between occupation and disease, or for the solution of sociological problems by investigating the occupations of those who resort for treatment, it is difficult to attach much significance to the fact that one major, United States Army, and one social reformer were treated in 1916. Are we to infer that officers in the United States Army who are above and below the rank of major are less liable to disease because they do not appear on the list? In the butchering trade there may be a delicate professional distinction between ham skimmers and ham boners, but we are at a loss to explain why two of the former and one of the latter should have fallen ill. Was the one Hebrew teacher one of the chosen people, or merely a teacher of Hebrew, or both? Did the 14 deep-sea fishermen suffer from mal-de-mer, and if so what should afflict the 16 plain ordinary fishermen? I confess to real curiosity as to the ailment of the lonely lumper in an undertaker's shop. Did he have melancholia or tie douloureux, or did he dislocate his mandible

from inordinate mirth? To be serious, this elaborate list is useless as showing any relationship between sickness and occupation, and its economic importance would be covered by classifying patients into the wage earners, salaried persons, capitalists, etc.

The medical and surgical data published in most reports consist of statistical tables showing the number of patients suffering from each disease, the sex, and the condition on discharge expressed by such terms as "well," "relieved," "not relieved," and "dead." There is further a table showing the operations performed, and the result couched in similar terms. Some hospitals, notably the Massachusetts General and the Peter Bent Brigham, have added brief abstracts of the operative fatal cases. Of just what use are these statistics? They give a good idea of the incidence of disease in a locality for a given year, as far as concerns the classes of diseases admitted to a particular hospital, but this usually does not include the epidemic and contagious diseases which chiefly interest the epidemiologist and health officer. They afford information as to the general medical and surgical flavor of the hospital; for instance, one hospital in a certain city will be distinguished for its wealth of traumatic surgery, which is brought to it by the police, or which comes to it on account of its location in congested industrial centres, while a neighboring hospital will receive but little accident work but will be the resort of many patients with pathological lesions such as tumors, parasitic diseases, etc. Many such instances readily come to mind. It is my experience that medical students consult these statistics in order to form an opinion as to where they may expect to find the kind of interne service which they desire.

Of true scientific value, it must be confessed, there is little or none. The data concerning each patient is so utterly inadequate that the work of hospitals, or the hospital work of communities cannot be compared. There is but beginning to be uniformity of nomenclature in diagnosis, and the terms used to designate the results of treatment are so vague (except the word "dead!") and involve so much of the personal equation, that just comparisons are impossible. Even the abstracts of surgical fatalities, in which the writer was a believer at first, seem of limited value. They serve, indeed, to recall to the surgeon the circumstances of his failure and to impress upon him anew errors and pitfalls which might have been avoided, but to other readers they seem like apologies, too brief to be of scientific value.

It seems, therefore, that the medical and surgical statistics do not in any sense constitute an adequate presentation of the work of the hospital as a contribution to existing medical knowledge. It might seem strange to the layman that such contributions as the Johns Hopkins Hospital Reports, the former Medical and Surgical

Reports of the Boston City Hospital, and similar volumes from various hospitals of New York, Philadelphia, and London are not the rule, rather than the exception. In former years when medical journals were few, the members of the staff of a hospital found the annual report the best, perhaps the only available vehicle for making known their work, but the subdivision of the general field of medicine into specialties, each of which has its special journals, each having a far wider circulation than could a hospital report, has resulted widely in the discontinuance of the latter and the resort by members of hospital staffs to the journals as means of publishing their work. The average hospital cannot compete with the medical journal, either in the matter of circulation or financial support. Doubtless this is to be for various reasons regretted, but it must be accepted as a fact.

But there is another side to the shield.

No student in the history of medicine, indeed no one who brings a trace of the philosophical viewpoint to the practice of his profession, can fail to find much of interest in a study of these dull statistical medical and surgical reports over a period of years. Turn, for instance, to the annual reports of the Boston City Hospital, which included these statistics from its foundation until they were omitted in 1916-1917. In 1865, there were performed 185 surgical operations, among which were but two laparotomies, both for ovarian cyst, and both patients died! Chiefly were the surgeons concerned with amputations, 44 in number, ligations, reduction of dislocations, operations for fistula in ano, for haemorrhoids, for the "radical cure" of hydrocele by injection of irritating chemicals or by inserting a seton; it is not until 1889, twenty-four years later, that the radical excision of the hydrocele sac appears in the list. Under the heading of "Results," it is specified whether healing was primary or secondary. Truly, surgery as we know it today was practically nonexistent. There were years after this, even up to 1883, when not a single laparotomy was performed! "Peritonitis" occurs as a diagnosis early among the medical diseases, but it is not until 1882 that "typhilitis" and "peri-typhilitis" appear, but from then on these diagnoses are frequent, and it appears that peritonitis was usually fatal and peri-typhilitis was not. The suspicion is justified that these were almost all cases of acute appendicitis, and those localized in the right iliac fossa got well, while those developing into general peritonitis died. In 1887, following the demonstration of the disease by Fitz, in 1886, the diagnosis of appendicitis occurs for the first time, and from then on the diagnosis of typhilitis and peri-typhilitis soon disappear, and peritonitis ceases to be a medical diagnosis. An epitome of the history of the operative treatment of hernia is furnished by the appearance in succeeding reports of Wood's operation, Hea-

ton's operation, MacEwen's, McBurney's, and finally in 1893, Bassini's operation. The tragedy of diphtheria before anti-toxin is revealed by the 78 tracheotomies in 1884 for laryngeal diphtheria, with 56 deaths, with the substitution of O'Dwyer's intubation in succeeding years, so that in 1888 we find intubation used in 100 cases with 78 deaths, and tracheotomy used only in 17 desperate cases, all fatal, where the lesser procedure failed. We can afford to smile now at the diagnosis of a single case of chronic ulcer of the stomach on the medical service in 1883, and the 52 cases of dyspepsia, gastrodynia, pyrosis and gastro-duodenitis. Such interesting side lights on medical history may be multiplied a hundred fold.

Let it be admitted, then, that the medical and surgical statistics of the annual hospital report have but little true scientific value, but afford a rough survey of the incidence of non-fatal diseases in the community at a given time, of the results of treatment grouped in certain broad classes, and give opportunity for the comparison of these facts in different years and epochs in different communities. Exactly these data are not to be obtained, so far as I know, from any other source. In addition, the statistics afford some basis, inadequate it is true, for comparison of the kind of work done in different hospitals, and are much used by medical students and doubtless others, in determining in what institutions they will seek to continue their training. The real question at issue is, Do these advantages justify the time, labor and money put into the compilation of the reports? In this connection it will be admitted probably that the essentials of these statistical tables should be prepared annually and kept on file in the hospital record room in some easily available form, as is now done at the Massachusetts General Hospital, even if they are not published. The additional labor to prepare them for the printer would be slight, so that the issue boils down to whether or not the statistical tables are worth the cost of printing and publishing them. The writer, who, by the way, does not have the duty of trying to make both ends meet in hospital administration, believes that they are worth the cost, and that reports would be the less significant without them. But the reports should be condensed, shortened, and made uniform as to nomenclature and method of compilation, throughout a community, or better, throughout the country. The tables of medical and surgical diseases should be combined, since the only difference between them (with few exceptions) is the therapeutic method employed. Minor sub-varieties of disease should be omitted and broader grouping attempted. The results of treatment should be grouped solely as "relieved," "not relieved" and "dead," for the term "well" is usually quite inapplicable. The table of surgical operations is really no more essential than one of serum or hydrotherapeutic

treatments for the medical service, yet it constitutes such a striking method and excites so much interest that it had better remain. It is not easy to combine it with other tables, but its complexity can be greatly reduced. For inconsequential verbosity it is only necessary to refer to the enumeration of the 57 different varieties of tinkering which are carried out on the female genitalia. The writer believes also that the synopsis of operative fatalities is not worth while.

While not strictly germane to the title of this paper, the writer wishes to point out other possibilities for the report. The suggestion has been made that major hospitals throughout the country, under the direction of a central organization, should take up annually some subject of special interest and report the experiences of each hospital in the appointed subject for the preceding year or series of years. Such a subject might be, for instance, the results of treatment of fracture of the neck of the femur. Thus annually would be available an enormous amount of data on the actual results of diverse methods of treatment of the same condition in the hands of the members of hospital staffs throughout the country, which could not fail to be enlightening. However, this would be a return to the principle of scientific hospital reports, which, with noteworthy exceptions, have been given up for reasons before noted. The same survey of hospital work in limited fields could be secured by agreement among members in existing scientific societies to investigate and report on the same subject during a given year, the result appearing as communications in existing journals.

The writer feels that the annual hospital report should contain a carefully prepared study of the professional work of the hospital during the preceding year, written by members of the staff, preferably a surgeon and a physician who, having a philosophical bent of mind, could give an account of the influences dominating the treatment of disease during that time, the introduction of new methods, and the discarding of old. Think of what interest would attach to such running contemporaneous comment on the introduction of the principles of antisepsis and asepsis, the carbolic spray, ligatures, methods of wound treatment, rubber gloves, etc. One looks in vain in the old reports for such comment or information. New methods and practices creep in slowly and become a part of the every-day routine, and their existence can scarcely be inferred from the existing reports. We can scarcely believe it, yet it is certain that what we are doing today will be as historically interesting to our successors forty years hence as is the story of the "Listerism" of the early eighties to us now.

Let each agent in the work of the hospital, trustee, treasurer, administrator, and staff give an account of his stewardship in the annual report, but let it be condensed, simplified, clari-

fied, and let the purpose be to render it a document of semi-scientific and especially of historical value for the information of the world with regard to the work we are doing today.

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## DISCUSSION.

DR. J. B. HOWLAND, Boston: I think there has been very considerable evidence in the last ten years among hospital trustees and superintendents that they were wavering about what should be published in the hospital reports. Besides cutting down costs, I think there are other reasons, and doubt has crept in as to whether elaborate reports were worth while. They are costly to print and it is costly to keep up the tables in the record room. Hospitals that formerly published reports of hundreds of pages are now getting out brief pamphlets.

I think there must be among those present some with decided ideas as to what hospital reports should consist of. We should like to hear from you.

DR. W. P. BOWERS, Clinton: I haven't any very definite suggestions, anything more than an endeavor to express appreciation of the recommendations which have been made. I think it has been found very generally that interpretation of hospital reports has been a rather difficult task when one wanted to get definite information, so that if the reports can be made more concise, more definite, and I refer especially to the professional part of the report, I think they would be of tremendous value.

It seems to me that we can safely leave the financial features to the people who manage the hospital, to the superintendent and the trustees, but the scientific report, it seems to me, may be made very much more concise, very much clearer, and therefore better available for comparative purposes.

DR. H. G. STETSON, Greenfield: With reference to this subject, there were several years when we did not publish any report, largely from lack of funds. A hospital report costs from \$75 to \$150, and for many years the hospital could not afford it. There came a time when the trustees felt that they should have a report, and I was unfortunately the one who was picked to make up that report.

Our hospital is, like many hospitals, an open hospital, and any physician of ethical standing in the community has a right to bring patients in and take care of them. That year and the following year I went through the report of diagnoses given, and I prepared a list of diseases, and the number, as Dr. Cheever has said, the condition at discharge, etc. But as I went over it, the more I saw the less convinced I became of its actual value. When a baby a week old dies of chronic nephritis; or when a patient is admitted with some disease that is considered more or less chronic, like nephritis or cancer, and is discharged in three days as cured, there is something wrong.

Some of the diagnoses were unquestionably valuable, but I felt that there was a great deal of question whether statistics like that were of value or worth the printing. Furthermore, in hospital reports only a few hospitals follow any definite nomenclature. A few have the International, a few the Bellevue, and a few more the form that is used in the Massachusetts General Hospital, and others you could not classify according to any method. If you want to classify disease in different hospitals you have got to go ahead and re-classify the whole thing yourself.

One other thing that we should be more careful

about and have some definite plan to follow, is the report of hospital maintenance. There are many hospital reports in which you look in vain to see what the maintenance cost is, how much it costs per patient, where the money has gone, etc. This item is particularly valuable in the case of those who are interested in hospital expenditures, and in most hospital reports you will fail to see anything to tie to. One hospital keeps books one way, another in another way, and there is no way to compare expenses of maintenance in one hospital with those in other hospitals. The same is true of incomes; some call income one thing and some another.

The report of the Massachusetts Charitable Organizations in the form in which they submit it at present, comes nearer to being of value in giving out actual maintenance figures, but even in that there are sometimes inaccuracies.

I think there should be some definite system for small hospitals to follow so that they can compare their maintenance and upkeep with one another, to see whether they are keeping within the reasonable bounds.

DR. W. H. MERRILL, Lawrence: It may be a bit of encouragement to Dr. Cheever and others to hear the statement of one hospital which has made a decided advance in accurateness and completeness of reports.

The nomenclature used is that which the Massachusetts General Hospital has adopted, more reliable figures are presented, and the financial reports of this hospital are also accurately kept. There seems to be no difficulty in obtaining the figures of costs.

DR. H. A. CHRISTIAN, Boston: One criticism that can be made of all hospital reports is that they are deadly dull. No one feels any great amount of enthusiasm about reading them. They are dull not because interesting things have not happened, but they are dull because the incidents of the year are incompletely or poorly presented.

Dr. Cheever has referred to the failure to find in hospital reports any account of introduction of new methods and development of these methods, and so on. It seems to me that is a fair example of one of the defects of many hospital reports. Perhaps some of you are accustomed to read "*Science*" and if so, you will know that for the last two or three months there has been running in "*Science*" a series of letters stimulated by some one's making a severe criticism of the scientists of this country and their inability to present their work and discoveries in an entertaining way to the public. That writer went so far as to say that it was largely due to the misconception of the scientists that literature was not science, and a literary presentation of a subject was belittling the subject from the standpoint of science, because sentences must be crude and involved and more or less unintelligent. Perhaps a good deal of that would apply to medical men in connection with their hospital reports.

It seems to me that the statistical part of the report is quite worth while, but that it should not be carried to extreme by undue repetition, not very useful tables, etc. I think a discussion could arrive at the elimination of some of this, and the simplification of other parts, and a lengthening and greater detail in still others. The main thing, it seems to me, in looking over a report, is the running comment that gives you some idea of what it is all about, and what the hospital is doing, presented in a way that is intelligible not only to the medical man but to the non-medical man who may have an interest in the hospital, and presented in a way that, even though not entertaining, yet is a fair chronicle of what has happened in the hospital.

There are one or two hospital reports that stand out as being of interest and worth while. Dr. G. Alder Blumer of the Butler Hospital of Providence puts out a report that is well written, entertaining

and gives an account that is worth while reading, even though my interest in it was extremely minor. It was so well written that I enjoyed it for that reason. He describes well what is going on, and nearly every year there is some suggestion of very distinct interest and value in that report. This year I regret to hear his swan song as active superintendent.

If we can eliminate the deadly dullness of our hospital reports it will help to increase the income from people who have been interested in the hospital, and as a result make contributions or leave bequests in their wills. They must have their interest aroused by something that has been brought to their attention in the hospital reports.

Another thing that is perfectly proper to put in a hospital report is a discussion of the defects of the organization or administration of that institution from the point of view of improving it, and from the point of view of letting others find out the failures as well as the successes and things which you approve of. The things which you dislike in your own job ought to be brought to the attention of the trustees, the superintendent, and so on. I think there is entirely too little criticism of one's self in most of the hospital reports describing hospital organization and hospital work.

DR. L. E. PARKINS, Boston: I have been interested in hospital reports since 1916, when I read the complete file of reports of several Boston hospitals. My interest was chiefly historical at that time. The Massachusetts Charitable Eye and Ear Infirmary has no separate history, but the facts of the founding, organization, etc., can be obtained from its annual reports. This is one real value of reports, but I believe that historical data might be given in some better manner, rather than in the present haphazard method. In reading any report I like to know to whom it is addressed. It makes a great deal of difference to anyone who writes if he has in mind the prospective readers, also, the writer should have a clear conception of why the report is written. Hospital Annual Reports are usually addressed to the trustees, who, though an important audience, constitute a very small part of the community. Would it not be a good thing for the writers of reports to consider a wider horizon and make a readable report that the community or average person could scan with interest? The report should "sell itself" to the reader. Hospital administrators have not always kept this point of view in mind.

MRS. GRACE E. MYERS, Boston: As librarian I have handled for many years the annual medical and surgical statistics of the Massachusetts General Hospital, and in these years have seen many improvements. At first this sort of thing used to appear, all in the same report: rens mobilis, floating kidney, movable kidney, nephroptosis. Of course, during my first year, when I was unfamiliar with medical nomenclature, they were all reported, much to my later mortification. No one should ever make up medical and surgical reports until after a long term of handling clinical records, so that such synonyms as I have mentioned can be recognized.

The war brought about a new condition of things at the Massachusetts General Hospital, which at first seemed difficult to meet. Expenses had to be reduced, and my own force of clerks was cut down just half. We were keeping up the clinical catalogues and the annual report, but work had to be minimized, and I find that in these two or three years we have been able to see a considerable improvement in methods. The war was not altogether an unmitigated evil. Whereas we formerly devoted one card to each patient, we now catalogue eight patients on the same card, which is an economy of space and time; and our statistics, which once required three months of steady work to prepare for publication, are now kept



on cards made up week by week and are not published, but kept on file. We have one card for each diagnosis, and this card shows the number of patients, male and female, with morbidity. A card on any diagnosis for a given year may be selected and statistics for that year obtained. The cards are filed in drawers, year by year, and comparisons may easily be made. There are at present six years reported in this way, and by pulling out three drawers, the statistics for the whole six years can be compared at a glance. It is a matter of only a few moments to collect figures upon any given diagnosis. Many doctors who have come to our hospital to look into our methods have expressed themselves as very well pleased with this plan, and in fact have said it was the best they had ever seen.

One good suggestion made by Dr. Cheever is that some subject of special interest for study should be agreed upon by the different hospitals in a community and the results printed in respective annual reports. This was discussed at a recent meeting of the Record Librarians, who agreed upon the excellence of the scheme, and the interest that would undoubtedly ensue.

DR. N. W. FAXON, Boston: What Dr. Cheever has said is in accordance with my own ideas, namely that the ordinary hospital report is altogether too long and there is much that should be left out. The essentials that he has named are sound and should appear in each report. There is no need of my naming them over again.

The only way of ever accomplishing anything is to standardize it and have each hospital report along the same lines. That must be qualified immediately by saying that a small hospital should not report along the same lines as the large general hospital or special hospital. The general form should be the same for all hospitals, but details must vary widely according to the type of hospital making the report. You have got to sub-divide it further, and this must be accomplished by being taken up by one central body like the hospital association or the American Medical Association, and worked out from the center of a central organization.

#### THE PLACE OF THE FULL-TIME AND PART-TIME PHYSICIAN IN THE MODERN HOSPITAL.

By ROGER I. LEE, M.D., CAMBRIDGE, MASS.

THE prodigious advances in medicine have inevitably created many new conditions, and many new problems. The future promises to show as great or even greater advances. Therefore, even if the new conditions of today are met and the new problems of today are solved, there will still be the necessity of change in the future. I doubt if anyone would be willing to recommend any plan as an entirely satisfactory solution even for the present, and it is reasonably certain that any plan which might be satisfactory today will not meet the conditions which will exist in several decades. Nevertheless, it ought to be helpful to face the situation as it exists today, and to attempt to guide some of the necessary changes into paths that not only seem usable for the present but also promising for the future.

The early conception of hospitals in this country, and I am speaking now perhaps more particularly concerning the Massachusetts General Hospital, with which I have the good fortune to

be connected, was that the hospital was an asylum for the needy sick. Persons with comfortable homes were expected to be taken care of at home as a matter of course. The leading practitioners of the locality gladly devoted a portion of their day to attendance on the sick poor at the hospital. It must be remembered that these were the days before Florence Nightingale demonstrated the value of the trained nurse. Operations were few and dangerous. The emetic and the purge wrought their havoc without preference for home or hospital. Likewise there was no advantage in comfort or convenience in being bled at a hospital. Then in rapid succession came a large number of events which entirely overturned the practice of medicine. Anaesthesia was discovered, and the surgeon was able to delve deeply in the secrets of the human anatomy upon a non-resisting and non-suffering patient. With the discoveries in bacteriology, surgical operation lost most of its dangers, but demanded an exact and special technique. Medical diagnosis and even medical treatment began to utilize cumbersome apparatus and elaborate procedures. Nursing became a recognized profession. Great laboratories grew up in connection with hospitals. We find the hospitals no longer as asylums for the sick poor, but as the amphitheatre of the best efforts of the master minds in all branches of medicine. To-day the well-to-do demand the same advantages of the well equipped hospital which the poor possessed undisputed in the early period of transition. To meet these changing conditions there has been a very rapid increase in the number of hospitals. The medical profession and the laity have met in a common demand for more hospitals. The hospitals, although under the widest possible variety of auspices, have, generally speaking, many problems in common. More or less irrespective of the financial status of the patients, most hospitals conceive their functions as the care of the sick, research, and teaching. There is some confusion concerning the teaching function of a hospital. Every hospital does teaching, even in the restricted sense of medical teaching. Some of that teaching may be the formal instruction of undergraduate medical students, or it may be the informal teaching of visiting doctors, of internes, or of the staff.

With the development of hospitals there has been a considerable readjustment in medical practice. The complexities of medical practice rather naturally led to specialization which has gone to great length in medicine, particularly in the larger communities. We find that the professors of anatomy, of physiology, of chemistry, and in general of all the so-called fundamental sciences, are no longer practicing physicians, but are devoting their entire time to teaching and research. We can discern a similar tendency in the teaching of other professions, for example in law, and in engineering.

In the hospitals, we find that a number of physicians have been giving full time to the hospital in their specialties. The medical superintendent of the hospital, in a large hospital, not infrequently devotes his entire time to hospital affairs and does not carry on private practice. A decade or so ago, the hospital pathologist was in many instances still attempting to do general practice. Nowadays he is often on a salary and his activities are perhaps confined to hospital work and teaching. The rapid growth of the x-ray laboratory has shown a very similar trend. At first men worked with the x-ray, and did general practice. At a later period the men confined their attention exclusively to the x-ray, partly in the hospital, partly in private practice, and now we see a very definite trend toward the utilization of the full time of a considerable proportion of the professional personnel of the x-ray department in the hospital. In the twenty-odd years since Roentgenology was discovered, we cannot, of course, find a complete unanimity of action on the part of all workers in the x-ray, but I think that the trend must be obvious to all. Perhaps of wider acceptance but of the same general significance is the payment of salaries for professional services by the hospitals. The salaries are for the most part for part-time service but it is, nevertheless, a long step away from the old idea of gratuitous attendance on the sick poor in the hospitals.

It was inevitable that this same tendency for paid full-time work should develop in what we still elect to call the clinical branches, namely, the actual care of the sick patient. In many ways the full-time hospital physician and surgeon seem to be the almost inevitable and logical outgrowth of the present situation. I interpret full-time rather liberally, meaning that the hospital (often with an affiliated medical school) is the full-time physician's main interest and main source of professional income, and that he does not maintain a regular private office for private patients. By part time I mean that the hospital is only a part of the interest of such a physician and that another considerable part of the interest, perhaps usually the main interest, and the chief source of his income, is elsewhere; as a rule, of course, in private practice. Relatively only a very few part-time physicians receive a salary for their hospital work.

Even if it be granted that the instruction of medical students is better carried on by full-time clinical professors and a full-time teaching staff, it does not necessarily follow that our teaching hospitals (teaching in the sense of instructing undergraduate medical students) ought to be manned entirely or even controlled by full-time physicians, nor that the non-teaching hospitals (non-teaching in the same sense) ought to adopt the full-time plan, even if in the Mayo clinic such a solution has been complac-

ently accepted as meeting the obvious requirements of a somewhat unique situation.

The proposal of the full-time basis by no means has met with complete approval. It must be granted at once, I think, that a hospital with a full-time staff is more easily and perhaps more efficiently administered. Furthermore, a smaller staff also makes for ease and efficiency of administration. Again, in those hospitals in which there are working both full-time and part-time professional men, it has usually happened, when the requisite allowances for personality are made, that the full-time men have inevitably and naturally acquired the greater influence in the hospital. Nevertheless, the problem ought not to be solved on the basis of any of these advantages. The advantage of possible development of greater opportunities for scientific investigation, which certainly accrue to the hospital employing the full-time plan, will not, furthermore, of necessity be of decisive value. In that connection it must be recognized from the history of medicine that material advantages and scientific productiveness are by no means always closely parallel.

The disadvantages of the full-time plan are essentially that such a plan does not meet the needs of the community in a large way. Even when one grants that the teaching of medical students and of medical graduates may be more effectively done, and even if one grants, merely for the sake of argument, but which is certainly debatable, that the patients in such a hospital are as well or better cared for than under any other plan, there still remains the outstanding fact that under the full-time plan the hospital does not tend to maintain close contact with the community. The influence of a hospital under the full-time plan while very great as a demonstration institution would, nevertheless, probably be very much less in the community than a hospital with a much larger part-time staff. Despite the large hospital facilities at present, the overwhelming majority of the population do not become hospital patients except under special circumstances. This majority has now and is likely to have for some time its own physicians. For the common good of laity and physicians it is desirable that the scientific leadership and stimulus of the hospital should be brought to this majority of the community in every way feasible.

There is always, it seems to me, in the case of a part-time visiting physician or surgeon, a very fair exchange between the doctor and the hospital. The hospital offers the doctor a much needed opportunity to develop himself in the science and practice of medicine. At first he has to meet the criticisms of his elders and always he has to meet the criticisms of his internes. In partial payment the part-time doctor contributes to the hospital a wide variety of experience gained from private practice, some of which will be reflected in the actual care of the pa-

tients, and all of which should benefit the staff, the internes, the medical students, both undergraduate and graduate. Furthermore, a probably more important contribution in the contribution in terms of good will and appreciation of the community which may at times take a very substantial financial form. Partly due to the early traditions of the profession and partly due to the prodigious changes in medicine, the medical profession and all its appurtenances, such as medical schools, hospitals, laboratories and the like, greatly need a sympathetic understanding on the part of the general public.

As I have tried to indicate, any attempted solution of this important problem must be tentative on account of the rapidly changing conditions of medical practice. One must recognize and make use of certain trends in medicine and, in my opinion, it is not necessary in so doing to compromise the broader aspects of the necessity of public service on the part of the profession. It would seem, therefore, wise and expedient to recognize the important principle of the full-time physician or surgeon and to attempt to gain the advantage of that principle without sacrificing the other principles involved. It will be desirable that no inflexible standards be adopted, because it will be well to study the development of many plans in different communities. Again, there will always be very special situations both in regard to local conditions and special foundations for which such solutions must be made. I have already referred to the Mayo Clinic. I might mention the Hospital for Medical Research of the Rockefeller Foundation and certain rural community hospitals, as special types. To my mind, however, it would be a mistake to separate into distinct groups those hospitals which do undergraduate teaching and those hospitals which do not teach medical undergraduates. There will of necessity be some slight difference in hospitals, but they all have in common the care of the sick, the development of medical investigation, training and teaching of internes, the training and teaching of graduate physicians, the training and teaching of their respective staffs, and community co-operation in its broadest sense.

Nearly all hospitals of any considerable size have accepted the principle of full-time physicians and surgeons for the interne period. That the principle of the full-time physician and surgeon should be extended beyond this one aspect is my strong belief. I believe that above the grade of interne specially qualified men should be encouraged to continue intensive full-time work for a varying period. I believe, furthermore, that on the grade which is generally designated as the visiting staff there might well be a full-time man, upon whom would fall much of the responsibility of the executive work of the professional staff which does not belong to the hospital superintendent or director. In a hospital which concerns itself with the teaching of

undergraduate medical students such a full-time doctor might well be either the professor of medicine or surgery or the executive officer of that department. Similarly, in the hospital which does not do undergraduate teaching such a full-time man might either be the head of one of the services or perhaps the executive officer of one of the services. Under his direction would naturally come the problem of developing medical investigation within the walls of the hospital. In this way it would be possible to create a more effective professional administration than is now usually possible with a completely part-time staff. In this proposed arrangement the large majority of the staff will be part-time doctors who will bring to the clinic their experiences and their contacts in private practice and who will take away to the community at large their hospital experiences and their hospital contacts. In my opinion it certainly would not be well to restrict the visiting staff merely to men who do only office or consultation practice. It would seem desirable to have representatives of all the different groups on the staff. It would probably happen that there would be rather frequent changes in such a relatively large staff, both in the full-time personnel when the younger full-time men go into varying kinds of practice and in the part-time personnel when active hospital work is no longer mutually advantageous to the hospital and physician. I dwell for a moment upon the importance of these occasional changes, because, as is well known, to those familiar with the hospital situation, there not infrequently arises a situation in the case of any individual doctor in which the exchange between the doctor and the hospital is essentially negligible. The doctor is so busy that he contributes nothing to the hospital and the hospital contributes nothing to him except a vague sense of pride in being connected with a good institution. Such a situation, familiar to all of us and tolerable perhaps in an exceptional instance, is hardly healthy when there are many instances. A junior man would make very much more of the opportunities than the overdriven practitioner or consultant, and the hospital would be doing a really better work for the community. I yield to no one in my admiration for the busy general practitioner. It is my firm belief that frequently he would do a larger service to the community if he substituted two hours of hospital for two hours of general practice. Unquestionably the hospital needs him. However, in this transition stage, too often the association of the very busy practitioner with the hospital has not been satisfactory. I have strong hopes that in the future some arrangement which is mutually agreeable and beneficial to the hospital and to the busy practitioner can be evolved. The recognition on the part of hospitals that they must serve the entire community, rich as well as poor, will, I think, help solve this difficulty. But I would indeed be sorry if the hospital development

should take such a form as to change this same very busy private practitioner into a full-time hospital practitioner.

Most successful medical men unconsciously or deliberately restrict their activities, although often not in the number of hours of work a day. One cannot entirely disregard time and distance even in a motor car. It is entirely feasible, even if not always easy, for the busiest practitioner to secure some daily free time. There comes up, of course, the obvious suggestion of part-time salary, particularly for those men who apparently subtract from their income for every moment spent at the hospital. I am not prepared to be dogmatic on the subject of part-time salaries for clinical men. It is bound to be tried out very extensively, because it is such an obvious compromise. To my mind, however, the part-time salary should rarely be a permanent arrangement. The holder ought to be passing to whole time with a larger salary or part time without salary. There will always be important exceptions, but in general two points have already been clearly demonstrated. First, the physician is abundantly repaid indirectly from his association with the hospital; second, the salary does not seem to be a very important factor in increasing the value of the part-time work. It depends on the man, not on the salary.

There is no one who appreciates more than I that such a plan as I have tentatively and vaguely outlined would not always be easy to operate. Furthermore, such a plan in the recognition of the desirability of even a moderate extension of the full-time and salary principle means increased financial expenditure on the part of the hospital. I by no means minimize the financial burdens of the hospital when I recall that somehow the money has been forthcoming for other innovations of proven value, as, for example, the expensive x-ray equipment, perhaps even radium, and often the salary of the x-ray specialist. The difficulties of this general plan are not insurmountable, provided that there is a frank recognition of the dual principle involved and provided that there is an adequate recognition of the fact that the hospital has a responsibility in the largest sense to the community and that in the adoption of a necessary principle in the trend of full-time medicine, it at the same time adopts the equally important principle that the part-time physician plays an equally important rôle, and that his position, while different, is equally dignified and equally vital to the success of the hospital and to the continued esteem of the hospital in the eyes of the profession and of the community.

#### DISCUSSION.

DR. H. A. CHRISTIAN, Boston: I agree so thoroughly with what Dr. Lee has said that there is very little to discuss. In his plan of development it seems to me perhaps worth emphasizing that there is a considerable place for part-time men with part-time salary. I think there are more men who do hospital work who should receive a salary remuneration. I

don't believe that they should be pushed to the point of paying everybody per hour for work, or anything approaching that, but I think there are a great many of the younger group of men who are extremely valuable to the hospital. Of course the hospital is valuable to them, but in order to live and develop, they need a certain amount of financial aid and I think the hospital should provide a part of that. It is the same in the medical school, where the unpaid teacher has not always been a great success.

Now in the whole-time plan, but little attention has been given to the ageing of the whole-time man. I have an idea that the whole-time man is more like champagne than sherry, because he does not improve as time goes on, but is apt to become "flat." As Dr. Lee has suggested, he is extremely effective in the hospital organization, because of many reasons, but as time goes on I think he tends to show very much the lack of contact with the community, and consequently his earlier efficiency decreases in a different ratio from the efficiency of the part-time man, who is constantly in contact with the general public in some form of private work, or practice.

So my feeling has always been that the whole-time man, even in the strictest sense, should be whole time for a comparatively short period of time, and then give way to some one else in that job and shift over to a more definitely part-time arrangement with the hospital, probably on some sliding scale.

I feel very confident that it is extremely easy for the man who works solely in the hospital to gradually slump on the job, as most professors do. It is always a great problem in the university to take care of the man who has become less efficient, because he has become a little lazy and medical men are not unlike other people in that phase of the situation. It is one of the undesirable features of the whole-time scheme. A part-time man is not so apt to become lazy because of the necessity of hustling to pay his necessary expenses, and the whole-time man is not confronted with that necessity.

I think it is a very interesting fact that long before we heard much about the general discussion of whole-time teachers in clinics and whole-time hospital men, the process was well under way and the hospital had a number of whole-time men, so that it is not a new thing but a gradual evolution that has taken place. The problem is how far it shall go in one direction and how far in the other.

I think Dr. Lee has very admirably sized up the situation and has given a very good outline of the desirable relationship between the whole-time and the part-time workers.

DR. P. W. GOLDSBURY, Deerfield: In line with what Dr. Christian has said about a man's growing state, I heard a recent discussion about the full-time and part-time health officer, and one, who was upholding the policy of part-time health officers told of his experience in a certain State of which he was health commissioner. He dwelt on the trouble he had in taking a full-time health officer, well trained, from the eastern part of the country and having him put into the State over which he was health commissioner; and the difficulty that that health officer had in interpreting himself to the people. It seems to me there is an analogous situation here, as applied to the case of a man who is a full-time hospital man getting where he cannot interpret himself to the people of the district which that hospital is to serve. I think it a very important point to keep in touch with the people.

DR. LEE (closing): Probably Dr. Christian and I are entirely agreed about the part-time individual on the part-time salary. I feel that this particular development may be a good deal of a menace, and that is the reason I rather decry it. I think under special circumstances that the part-time salary man in the hospital may be very desirable, but as I tried to point

out, I feel that it should be largely a transitory arrangement. In comment on Dr. Goldsburys remarks, I do not accept the analogy between the part-time health officer and part-time physician.

### Original Articles.

#### THE REGISTRY OF BONE SARCOMA AND MEDICAL HUMAN NATURE.

The readers of the BOSTON MEDICAL AND SURGICAL JOURNAL may be interested in the replies to the questionnaire postal which I recently issued, in order to find the number of cases of bone sarcoma now resident in Massachusetts.

The following are the two letters which I wrote to the JOURNAL concerning this matter:

February 2, 1922.

Mr. Editor:

I wonder if you would give me your help in obtaining some statistics for the registry of bone sarcoma? It is desirable to know the frequency of occurrence of cases of this lesion and there are no statistics by which we can obtain it. It occurred to me that a pretty accurate estimate could be made in the following way:

According to the directory of the American Medical Association (1918) the population of Massachusetts is 3,662,329 and the number of physicians 5494. If each one of these physicians should drop me a postal saying either "I do know" or "I do not know of a case of bone sarcoma at present alive in Massachusetts," we should have, almost by return mail, the best information in the world on the percentage of this disease per capita of population.

Of course I realize that your JOURNAL, interesting and instructive as it is, by no means reaches every physician in the state, and that many of those whom it does reach do not read everything in it. Nevertheless, there seems to be a way to counterbalance that discrepancy. If every physician who *does* read this letter will constitute himself a local committee for a week and ask every other physician he meets during that week whether he knows of a living case of bone sarcoma, and obtains their signatures, I believe we should reach nearly every physician in the state. These could be checked off in the directory and I could make a personal appeal to the remainder.

I believe that every doctor in Massachusetts would be glad to contribute his bit to medical science, if the doing so did not involve too much time and expense. This plan would involve but a minute of time and a cent apiece, so the main thing would be to get the plan to them. Will you try it? They will each do their bit if you do.

A few words about the registry may not be out of place. The registry of bone sarcoma aims to be a combined national study of the diagnosis

and treatment of this lesion. Although organized independently by Dr. Bloodgood of Baltimore, Dr. Ewing of New York and the writer, it is now a committee of the American College of Surgeons. Our object is to register every case of bone sarcoma and by following the cases (through their medical attendants) to learn what the result of each is and what, if any, forms of treatment are effective. At present these cases are too rare for any one surgeon or clinic to obtain a sufficient number for study. We do not expect to find an excessive number in the whole country. In fact, during the year and a half in which we have been collecting cases we have only found four five-year cures by amputation, and altogether only under one hundred cases which are now living, including those known to be moribund.

If the physicians of Massachusetts will promptly send in the postal cards, negative and positive, as above suggested, we shall at least know what the problem is in this state. All supposed-to-be bone sarcomas should be reported, including giant-cell tumors, except epulis. We want to know of all cases now alive whether cured, under treatment or moribund. We want negative answers as well as positive.

When we once know who has charge of each case in Massachusetts we can communicate directly with him and perhaps by showing our collection help him to treat his particular case more satisfactorily. We can at least give him expert pathologic opinion on sections of tissue. We should be glad to demonstrate our collection to anyone interested.

I hope, Mr. Editor, you may see fit to publish this letter, although I fully realize that it may be a precedent you do not care to establish. I ask the favor because our committee represents a great national association which has undertaken this intensive study of a rare and singularly fatal disease. The work of the committee consumes a great deal of time and I hope that you and your readers will help us out.

The American College of Surgeons holds its clinical congress in Boston next October. I hope we shall then be able to state the exact number of cases of bone sarcoma in Massachusetts, with pathologic proof of each case if it is obtainable.

Should this letter be read by physicians outside of Massachusetts, I may repeat that this investigation is a national one, and we should appreciate any positive reports of cases. It is only in Massachusetts that I am trying to get *negative* as well as positive replies.

(Signed) E. A. CODMAN, M. D.

February 27, 1922.

Mr. Editor:

I wonder if the result of my letter in your issue of February 2 would interest your readers? My letter was intended to enable the registry of bone sarcoma to find out how many cases of bone sarcoma were known to be living



in Massachusetts, whether cured, under treatment, or moribund. It suggested that if every one of the 5494 physicians in this state would drop me a postal stating whether or not he knew of a case we should have at once the best statistics ever obtained on the frequency of bone sarcoma.

In reply I have had up to date *only seventeen negative and two positive answers*. Is this because your Journal is not read or because of the indifference of the medical profession as to whether the frequency of bone sarcoma is known or not?

Perhaps your readers may be interested in the human nature problem involved, even if they are indifferent as regards the advance of medical science. Your editorial board may also be interested to know what proportion of your 3546 subscribers in Massachusetts read the JOURNAL thoroughly. I therefore enclose a diagram which aims to analyze the problem.

If you are interested enough to publish this letter and diagram in three successive issues I will undertake to send a return postal to every physician listed as living in Massachusetts, in the directory of the American Medical Association, who has not dropped me a postal a week after the third issue. On one-half of the postal I will have this diagram printed; the other half will have the return address to me. Eventually you can publish the diagram with the numbers following each heading. This will give the facts to the few interested in bone sarcoma and the many interested in the BOSTON MEDICAL AND SURGICAL JOURNAL and in the psychology of the medical profession.

(Signed) E. A. CODMAN, M. D.

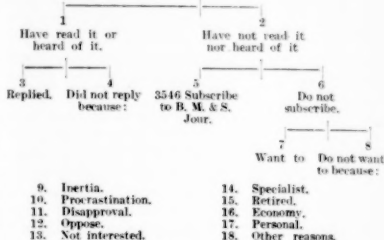
Everyone is interested in human nature, even if not in bone sarcoma. Each of us thinks he knows something of the human nature of his fellow practitioners in Massachusetts. Here is a chance to test ourselves. Let each reader of this article make his guess of the number under each of the headings on the postal and then compare with the text. Whether astute politicians or professional psychologists would be best qualified to answer these riddles I do not know, but a wise man should be able to do so better than a mere "guesser."

Undoubtedly in sending this questionnaire I have added to the many annoyances which afflict the modern practitioner. One writes as follows, expressing his "amusement at the solemn earnestness with which a statistical study of bone sarcoma developed into an intensely serious tabulation of physicians. No serious soul with a burning missionary zeal appreciates that when he asks a general practitioner to pause and give him his facts he is one more of a horde of modern complications that are wearing on our patience. We are beset by telephone, by mail, by interviews by social service sleuths, family welfarers, accident and health insurance certifi-

## DIAGRAM.

5495 PHYSICIANS IN MASSACHUSETTS.

LETTER ON REGISTRY OF BONE SARCOMA IN BOSTON MEDICAL & SURGICAL JOURNAL, FEBRUARY 2, 1922.



Please reply to this by consecutive numbers, e.g., 1-4-15 means "I have read or heard of the Registry and did not reply because I have retired from practice"; 2-6-8-16 means "I have not read nor heard about the Registry of Bone Sarcoma and do not subscribe to the Boston Medical and Surgical Journal from motives of economy."

May 1, 1922.

Dear Doctor:

The Registry of Cases of Bone-Sarcoma wishes to obtain for statistical purposes the number of cases of this disease at present alive in Massachusetts.

The letter referred to asked each physician to reply as to whether he knew of a case now living, whether cured, under treatment or moribund.

We shall be very grateful if you will state on the return postal whether or not you know of a case, and also give us the facts called for in the above scheme. Negative as well as positive answers are solicited.

E. A. CODMAN, Registrar.

## RETURN POSTAL.

I do—do not—know of a case of bone sarcoma at present living in Massachusetts.

My reasons for not replying to your letter in the BOSTON MEDICAL AND SURGICAL JOURNAL were:

(Signature).....

ates, workman's compensation documents, lawyers' letters, etc. These time-consuming, insistent nuisances have multiplied most horribly in the last ten years. The end is not yet, because now the soldier and, especially, the almost soldiers, are just beginning a drive for bales of affidavits to bolster up claims, many of them bogus." However, he did his bit and said he did not know of a case of bone sarcoma!

Another wrote that he was no more interested in bone sarcoma than I was in knowing "how many flies could light on a golf ball." But he, too, did his bit and said that he did not know of a case. There were other interesting replies, but none were so depressing as those who did not reply at all, for they spoiled the statistics.

Evidently the postals were received in very different spirits by different individuals according to their views of life in general. Dark suspicions of the intentions of the writer were probably held by some who promptly dropped the postal into their waste basket. Pity for my

wasted optimism probably indolently slipped the card into other waste baskets. Rebellious feelings against the unfairness of modern life may have made others tear the card to bits. One may speculate indefinitely as to the motives that inspire men to make decisions—even trivial decisions—but if you, reader, understand the psychology of your fellow practitioners in Massachusetts, write your numbers under the various headings.

My motives, so far as one can understand his own motives, were in fact to interest the practitioner in this study, so that when the American College of Surgeons meets in Boston next fall I can state that every case of bone sarcoma has been registered and that whatever treatment the patient is undergoing, every case in Massachusetts is being put on record for the benefit of future sufferers with this disease. Financially I have nothing to gain, for no charge is made for the services of the registry.

Personally, I should gain something—success in a difficult task is something anyone enjoys briefly. If I can collect all the cases in Massachusetts my committee can collect nearly all the cases in the United States and make a study of this disease, which will be really worth while. If we know the number in our 4,000,000 population in this state we can at least estimate the magnitude of our problem.

And if I can show that Massachusetts is keeping a record of every case that her physicians and surgeons are experimenting upon, I shall have an example to set before the world. These patients *must* be experimented upon. Shall we set the example of recording the results of these experiments or shall we continue to let these patients be exploited by hospital "authorities," self-constituted "experts" and "successful" practitioners?

If any honest physician, whether he be chief of a great surgical service or an underpaid, overworked practitioner, is treating one of these patients fairly he will not be ashamed to record the case or to inform the patient or his friends of the existence of the registry collection, and to give the patient the benefit of his own study of the other cases already registered. The registry will be glad to have anyone who is treating a case of bone sarcoma study its material. The collection is public property, under the guardianship of the American College of Surgeons. The writer is the unpaid registrar and would regard it as his duty to demonstrate the collection to any one who registers a case.

My objective was twofold. First, to let every physician in Massachusetts know of the registry of bone sarcoma and what help it could be to patients with this lesion. Second, to locate every case of bone sarcoma in the state and get the co-operation of the physician in charge of each case. How far have we succeeded?

In the first place it is impossible to accurately determine the number of physicians in the

state. The State Board of Registration in Medicine keeps a file of those who have been registered, but does not make an active file, deducting those who die or move away or even those who move into the state and do not register (unless complaint is made). The directory of the American Medical Association for 1921 gives the number as 5959. This figure is, of course, out of date, but is probably the best available. Return postals were sent to 5577 of these, leaving out some of those marked "retired" and "specialists." Of these 157 were returned "unclaimed," "dead," "away" or with no notation at all. This leaves 5420.

Of this number we have heard from 2230 as to the main question of whether they knew of a living case of bone sarcoma. Only 115 answered positively, and by cutting out duplicates we have only located 71 possible cases of bone sarcoma. We are still endeavoring to get detailed proof of these.

So as to letting the physicians of the state know of the existence of the registry of bone sarcoma, we can be fairly sure we have reached two-fifths of them and probably most of them. As to whether we have located all the cases of bone sarcoma we can be a little more optimistic. I think it is a fair assumption that a physician who knows of a case would be apt to reply to the card and that one who did not would not bother to send negative evidence.

Now with regard to the other questions on the card which have no relation to bone sarcoma, but to medical human nature. This might be called a study in "bother."

Only 56 bothered to answer the first two letters. Only 2230 bothered to answer the postal.

Only 658 of these bothered to state they had read the letter and give their reasons for not answering it.

Admitted inertia, procrastination, not interested, or having failed to realize that the statistics necessitated negative as well as positive answers.....	377
Thought they had previously replied....	30
Thought their answers were not desired because they were specialists.....	121
Thought their answers were not desired because they were retired.....	71
Did not reply because of personal or other reasons.....	53
Expressed disapproval or opposition....	6

658

This leaves us still in doubt of the state of mind of the 3190 who did not bother to reply at all. Certainly the opposition cannot be strong if only six bothered to express it.

Concerning the question as to how well the BOSTON MEDICAL AND SURGICAL JOURNAL is read, 1026 bothered to state that they had not read my letter. Of these 1026, 243 bothered to state that they subscribed to the JOURNAL and 273 that

they did not subscribe and 21 bothered to say that they wished to subscribe! Whereas 510 of those who bothered to answer that they had not read the letter did not bother to state whether they were subscribers or not. This is a refinement in the degree of bother.

What is the state of mind of the 3190 who have not helped me with their answers? Is there opposition or only extreme indifference? Surely each must understand that negative replies are necessary for reliable statistics. Only six of the 2230 who answered have expressed opposition or disapproval. Five simply stated "disapproval" and only one gave a reason: "Your method in gathering your data has antagonized rather than elicited my interest in your study. Your data could be obtained in a more dignified and constructive way, I believe." This is the only criticism I have had, yet this critic did not neglect to do his bit and stated he did not know of a case of bone sarcoma.

The reason for mixing up the other questions with that on bone sarcoma was that I believed the total would interest a larger number of men and I should thereby gain my two chief objectives of getting the registry known and of finding out the actual number of living cases. Perhaps the author of the criticism understands medical human nature better than the writer. So far as I know no one has ever attempted to gather statistics in this way before and some method had to be chosen. As chairman of the committee I have expended \$135.25 in this effort and it remains to be seen whether the regents of the college will feel that I must bear the expense personally or that I should be reimbursed. To my mind the importance of making the study complete can hardly be measured in dollars. I may be criticized for expending this money in this way, but no member of the American College of Surgeons would be criticized for charging this amount for the simple operation of amputating a limb for a patient with bone sarcoma! Yet the facts which this registry of bone sarcoma have already collected show that few if any surgeons are qualified to decide whether a limb should be amputated in any given case or not.

Perhaps it is because the medical profession realizes that this plan of registering every case of bone sarcoma for thorough study is an epitome of the just criticisms of our methods of surgical practice, that they distrust it and are disinclined to do their bit to aid me in gathering my statistics. Or is it just dead indifference?

If there is any real opposition one would think that more than six of 5577 to whom the postals were addressed would express it.

Will some wise man *show* me (not *tell* me) how to reach the other 3190 necessary to complete my statistics? I have expended all the money I think it is right to expend for the college on this questionnaire, but I believe I could

obtain from private sources a like amount to be spent on a better method.

## THE TREATMENT OF ASTHMA.\*

By FRANCIS M. RACKEMANN, M.D., BOSTON.

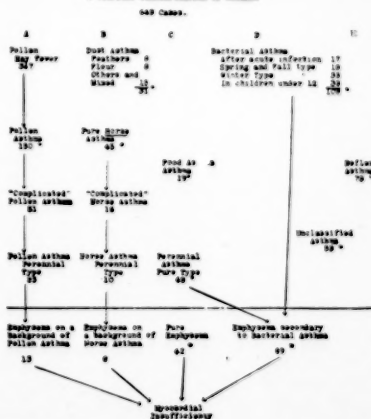
Physician to Out-Patients, Massachusetts General Hospital.

[From the Anaphylaxis Clinic of the Massachusetts General Hospital.]

MANY methods of treatment have been devised and described for asthma. Each one of these methods is of great use in certain cases, but no one of these methods will cure every case. This simply emphasizes what we know already—namely, that there are many different kinds of asthma—so many in fact that it is entirely reasonable to regard asthma as a symptom and not as a disease entity and to define the word "asthma" as a peculiar type of dyspnea. According to this definition it is quite obvious that there is a considerable variety of cases. Thus there are not only typical cases of asthma of the extrinsic type where symptoms occur only after exposure to the particular foreign protein cause, but there are many other cases in which there is no such apparent cause and yet which during the attack present quite the same clinical picture as the first group. Still other cases have a chronic bronchitis, and finally, there are here included cases which have the typical barrel-shaped chest and the chronic cyanosis of pulmonary emphysema. Cardiac asthma has not been consciously included.

The various kinds of asthma are shown on the accompanying chart. This chart has been

A CLINICAL CLASSIFICATION OF ASTHMA.



\* See cases.

\*Read before the New York Academy of Medicine on April 18, 1922.

found to be very convenient in studying individual cases as it indicates not only five important groups, but also shows how the character of the disease in the individual patient may change. This change is due to bacterial invasion, probably in most cases of the bronchial mucosa, so that beginning with a simple protein asthma we have first a simple complicated asthma and later a more advanced type, finally associated with chronic pulmonary emphysema, the symptoms of which are perennial and which appear to bear little if any relation to the original cause.

In a recent review of 648 cases<sup>1</sup>, foreign proteins were considered to be the underlying cause of asthma in 38%. Just as these 38% of sensitive cases can be subdivided into groups, so also can the 62% of non-sensitive cases be subdivided more or less into groups. I have designated some of these cases as bacterial asthma and others as perennial asthma and another more important group as reflex asthma.

In this connection the diagnosis of bacterial asthma is made partly by excluding foreign proteins as causes, but on the other hand it is made also on the history. Several cases have developed asthma immediately following some acute respiratory infection. These cases have considerable cough and raise definite amounts of sputum, so that it would seem entirely reasonable to regard bacteria as responsible. Another group of cases has attacks of asthma in the spring and fall but during the summer and winter are entirely well. Their attacks come on in spite of the fact that they lead exactly the same sort of a life in exactly the same locality and, therefore, it is hardly reasonable to assume that protein sensitiveness can be a cause, especially since during many months in the summer and also in the winter they are entirely well.

Similarly, the cases of winter asthma are assumed to be largely bacterial in nature. Here again foreign proteins could hardly be important, although it is conceivable that by living more indoors behind closed windows the dose of some particular dust or odor might be larger.

The diagnosis of bacterial asthma in children is apparently confirmed by the fact that in most cases vaccine therapy really does prevent the onset of "colds" and thus definitely relieve the asthma and all this without any changes in diet or mode of living.

The term perennial asthma is undoubtedly artificial and simply includes those non-sensitive cases who have symptoms at all seasons without any apparent cause.

The diagnosis of reflex asthma is made largely on the recognition of pathology elsewhere than in the lungs, treatment of which by surgery or otherwise often relieves the asthma.

So far as diagnosis is concerned, it is the experience of the writer that the history is by far the most important part of the study. A pa-

tient with late hay fever develops asthma in early September: this asthma hangs on until after the first frost, perhaps until November. The patient is worried because two years ago the asthma stopped in late September when the hay fever stopped. If we conceive of a pollen asthma complicated by bacterial infection such a history is easy to explain.

In view of the foregoing it is obvious that the treatment of asthma is really the treatment of the cause. It is beyond the scope of this paper to discuss the technic of pollen treatment but it is important to recognize in these so-called complicated cases, and particularly in the perennial cases, that pollens are the underlying factor and hence the next season should witness a very determined effort to desensitize the patient so as to prevent the onset of the usual train of symptoms and the continued progress of the disease, because when once chronic emphysema has developed, no treatment is really satisfactory.

Like the pollen cases, the animal dander and other dust cases are susceptible to specific treatment. In these, however, we are much more fortunate in being frequently able to remove the offending substance from the patient. It is not unlikely that such an avoidance of the specific cause may bring about a spontaneous rise of tolerance or desensitization. Schloss<sup>2</sup> speaks of cases with a spontaneous and temporary desensitization. Recently a patient said that he used to have horse asthma as a child; has been entirely well for many years until he went to the circus and had another attack. The several years' freedom can, of course, be interpreted as due to an increased, but not an absolute tolerance, since symptoms did follow when the dose of the offending dust was large.

The author's personal experience with the treatment of horse asthma with horse-hair extract has been far from satisfactory. A variety of extracts, all of which give beautiful tests in horse-sensitive patients, have been used, but in most of these cases it has been quite impossible to increase the dose above a certain small maximum, not only because the local reactions following the subcutaneous doses were large, but also because severe symptoms at times supervened. One case, however, has been cured, since she has had no asthma for nearly three years. In her case it was possible to increase the doses slowly but steadily. Her skin test, done recently, still shows a positive reaction to horse dander.

The subject of vaccines in asthma is indeed a large and important one. Theoretically, at least, vaccines act specifically to stimulate the organism to overcome the invasion by a particular bacterium. There also is a non-specific effect probably due to a non-specific mobilization of specific antibodies, as shown by Hektoen, Bieling, and others. And finally there is the psychic effect of doing something definite for the patient—a feeble argument for vaccine ther-

apy, but in certain cases a justifiable argument.

Before discussing the indications for the use of vaccines, there are these contraindications: Vaccines should never be used until a careful study has been made; until foreign proteins as possible factors have been carefully considered, and until possible foci of infection or other lesions have been removed or treated. Vaccines should never be used if there is a fever. As has been just said, however, a foreign protein or extrinsic asthma of any type may be complicated by bacterial infection, and in certain cases vaccines can be given, for example, together with the protein treatment. For example—the perennial type of asthma based perhaps on pollen sensitiveness and proved not to be caused by other foreign proteins may be treated temporarily at least by vaccines.

Direct indications for vaccines are few. There is a considerable group of children who have asthma associated with colds—in other words, asthmatic bronchitis. Treatment with vaccines is really worth while, particularly if the attacks are separated by definite intervals so that organisms isolated in one attack can be used in a vaccine to prevent the next. Likewise, in adults, there are many cases whose asthma occurs at relatively long intervals in definite attacks, also preceded by colds, and in these cases, too, vaccines are a reasonable treatment. In adults over forty years old it is quite common to see asthma which may be designated as “winter asthma,” since these individuals are perfectly well in summer, and in whom the first respiratory infection of the autumn is very shortly followed by asthma which troubles them with wheezy breathing and dyspnea on exertion throughout most of the winter. In these cases the symptoms are not always severe, most of them raise more or less opaque sputum and the clinical picture is one of a sluggish, low-grade bronchial infection associated with wheezing. In these cases, likewise, vaccines are worth trying and often do good.

*As to the technic of vaccine therapy.* The sputum or other material is smeared directly over the surface of a rabbit-blood agar plate. Various types of colonies are identified, isolated in pure culture and transplanted usually to dextrose broth. Vaccines made in the usual way are roughly standardized (according to the opacity of the suspension) so that one cubic centimeter contains about one billion organisms. From each case four or five individual vaccines are made. The selection of the particular vaccine is based upon the observation, which has been repeatedly confirmed, that vaccines in asthma do good only in case some local reaction follows their subcutaneous injection. A quarter of a c. c. or about two hundred and fifty million bacteria of each vaccine is injected subcutaneously. In twenty-four hours it will usually be found that one or perhaps two of the injection sites show a red area, varying in diameter

from one to two inches, which is slightly swollen and tender. The other sites may show a trifling redness or nothing. No attention is paid to the reaction until after eighteen or twenty-four hours. The vaccine producing this local reaction is the one selected for treatment. If two sites show a redness, the two vaccines are both used but are injected separately, so that further reactions to their injections can be studied and compared.

*As regards heterologous vaccines.* It is very important to observe that in a few cases where autogenous vaccines have been made, that subcutaneous injections were made with heterologous vaccines as a control to the autogenous. In a few of these cases such heterologous vaccines gave reactions which were as large, or larger, than the autogenous and, under these circumstances, it has been frequently found that treatment with the heterologous vaccine has brought about satisfactory results.

As to whether one particular vaccine is more apt to produce a positive reaction than another, it may be said that there is no one type of vaccine which invariably produces a positive reaction. A green-producing streptococcus may react in one patient and give relief when used in treatment in that patient, while in another patient there will be no local reaction at all. In the same way hemolytic and nonhemolytic, white and yellow staphylococci may or may not give a reaction. This indicates that the reactions depend upon some peculiarity of the patient and not of the vaccine. The important point is that whatever the vaccine producing a local reaction, treatment with it will almost always do good.

In treatment, doses are given at intervals of five to seven days and are graded according to the local reaction which has followed the previous dose. However, additions to the previous dose are rarely made more than two-tenths of a cubic centimeter, so that after six doses the patient is receiving a dose of about one and a quarter billion and this provided local reactions have not been too large. I would emphasize the importance of a local reaction by saying that it is all too common to have an injection of vaccine followed by no local reaction at all. Under these conditions the dose can be doubled at the next visit and perhaps thereafter doubled repeatedly without producing any local reaction and without making the patient better or worse. On the other hand, when an injection of vaccine does cause a local reaction, further doses will in most cases do good. If these doses are pushed too rapidly, the asthma is often aggravated to a definite extent—a phenomenon perhaps comparable to the focal reaction which occurs after the injection of many specific and non-specific substances.

In those cases where vaccines bring about relief, this relief usually occurs before six or seven doses have been given, and it is very doubtful whether it is worth while to continue the re-



peated injection of that particular vaccine beyond this point without clinical results in the meantime.

*As to the results of the use of vaccines.* It is very difficult to estimate results: replies to questionnaires are only fairly satisfactory, not only because the patient's statement is the only check, but also because most of the patients are taking potassium iodide or other remedies or are modifying their life in some way which in itself is important. However, an earnest effort to discover the value of vaccines has shown the following:—Autogeneous vaccines have been used in one series of 32 cases, including all types, with good results in 24 cases. Heterologous vaccines have been used in another series of 17 cases with good results in 11 cases, so that it is quite evident that the use of vaccines is worth while. However, these good results are by no means always permanent. It frequently happens that whereas during one winter the patient was treated with some success, attacks will occur during the following winter and further treatment, starting over again with fresh cultures must be undertaken.

*The general treatment of the asthmatic* must never be overlooked. In looking over the reports turned in from a recent questionnaire, it was quite gratifying to find that of those cases heard from practically all originally classed as reflex asthma were definitely improved. Fifteen of these reports were from children in whom efforts to improve their malnutrition, bad hygiene or improper methods of feeding constituted the only treatment. All fifteen were markedly improved.

One of these children was a tall, pale, thin faced girl of nine who had been having asthma in regular weekly attacks, usually on Sunday, for several months. On the advice of the family doctor, milk and eggs had been withheld from the diet. The child was obviously underweight. The chest was long and thin, with rounded shoulders and projecting neck and head; the front chest was quite flat and the abdomen was prominent. Skin tests were done, found negative, and later repeated in order to satisfy the mother that the child could take all foods without difficulty. The diet was rearranged and balanced properly. Her school lunch was adjusted so that she had two hearty sandwiches and no cake. Regular play and exercise out of doors was insisted on, and, in addition, arm and chest exercises were prescribed. Hydriodic acid was given temporarily. When seen a year later the child had had only two attacks in the previous four months and had gained a great deal in weight and strength.

Another child was a small boy of ten. Asthma had existed since infancy and in addition he suffered from attacks of syncope and convulsions, strongly suggesting epilepsy. He was distinctly "queer" mentally. During these attacks he had never injured himself nor did he

lose control of his sphincters. He was a very "spoiled" child. He was round shouldered and in very poor general condition. In spite of the possible epilepsy he was given corrective exercises and was put on a very rigid daily regime and schedule, including plenty of time out of doors. Within a month the epileptiform seizures had practically disappeared. He had gained one inch in height and several pounds in weight and his asthma, while not entirely gone, was improved to a marked degree. There was no other treatment beyond measures of general hygiene and careful mental control.

Tonsils were removed from four other children, with good results in three. In six adults bad teeth, infected antra or bad tonsils were treated surgically with good results in four. One of these is a striking case. A girl of 26, she had severe and almost constant asthma for ten years. Her tests were all negative, and in the hospital ward she continued to have severe attacks for over three weeks, in spite of all treatment, and was discharged in poor condition. Later, in the outpatient department, a pansnasal sinusitis was finally recognized, and following a left Killian operation, she was free of all asthma for nearly six months; and then, following a slight return of her symptoms, the other side was similarly drained, and she is today having some asthma, but in very mild form, and the hope of curing her is reasonable. She has gained nearly twenty pounds in weight.

Two patients had a positive Wassermann, one was treated with arsenphenamin and so far is very much better. The other had not returned for treatment and the asthma is the same. In four patients, asthma was probably dependent upon overwork or excessive mental worry, as forced rest, both mental and physical, has cured two of these patients. Two patients with visceroptosis have had no asthma since wearing a proper abdominal belt.

Several patients have been advised to move to another climate. One of these, an Italian laborer, was sent back to his family in Italy, where he is now well; while in America he had for two years practically constant asthma which remained almost the same in the hospital ward, where presumably foreign protein dust would not reach him. Another, a superintendent of nurses, writes from California that the very severe attacks of last winter, which forced her to bed for several weeks at a time, have gone and she is now well. Results such as these should leave us ready to believe that in certain cases a neurosis may be the underlying basis, although there are always other factors.

Finally, it should be borne in mind that asthmatics often get well by themselves. While there is available no figure to show what proportion of children with asthma recover spontaneously, this figure is probably large. It is interesting that of 222 patients now over 30 years of

age only 18% have had asthma since before the age of 15.

By emphasizing in this paper the importance of the general physical condition of asthmatics, it is by no means intended that attention should be drawn away from foreign proteins and their frequently vital importance to the cause of the disease. In the study of each patient, foreign proteins should always be borne in mind and never excluded without reason. Skin tests should always be done in doubtful cases and these tests should be interpreted logically and perhaps repeated if necessary. While positive skin reactions obtained with reliable test substances are probably always to be regarded as evidences of slight sensitiveness, yet in many cases, this sensitiveness is so light as to be clinically unimportant and such tests may usually be disregarded. Furthermore, the finding of a negative skin test does not always rule out sensitiveness to a given substance.

However, skin tests alone are by no means the only method of study and it is usually true that success in treatment must in each case be preceded by a very careful consideration of the patient as a whole. When the different pieces of evidence are in, their relative importance must be weighed and the whole must be correlated intelligently.

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## VIOLET RAY IN THE TREATMENT OF VARIOLA.

By PASQUALE ROMEO, M.D., BRIDGEPORT, CONN.

SINCE the time of writing a preliminary note upon the treatment of variola with exposure to the influence of violet ray, I have had opportunity to prove the value of such a treatment in two other cases, bringing the total cases treated by me to three.

Each case was of marked constitutional severity. Two cases were female patients: One 28 years old and the other 37. Both have been successfully vaccinated, but once, when children.

The male patient, aged 26, the first case treated by me with violet ray, had been vaccinated twice with negative results: once when in childhood, again about six years ago, while in the Army.

This case seen in consultation with the attending physician, was at the fifth day of eruption. Patient was covered with a myriad of vesicles all over his body, the face, the palmar and plantar regions. Two vesicles were visible around the cornea of left eye, which was also the seat of a phlogistic process; an epischleri-

tis, causing intense lachrymation and photophobia. The other eye was slightly congested.

The onset of the disease was a typical one, with chill, general malaise, vomiting, nausea, headache, lumbar pains, sore throat and fever, ranging from 105 and 106 F.

Delirium was also a prominent symptom.

The family physician, although hesitant about giving a diagnosis, was inclined to regard the case as one of influenza.

The examination of the respiratory tract was negative and there was no indication of any other trouble which might account for the high temperature.

Four days later the fever came down to 98.6 F., while only three little macules were manifested on the forehead.

Patient paid no attention to it and went to work as usual. Two days later, on rising in the morning, he found that his chest and his arms were covered with a large number of macules. Being frightened he remained in bed and summoned his doctor, who diagnosed smallpox.

Next day all the surface of the body was covered with macules.

When I saw the patient he was very restless and uncomfortable.

He could not lie comfortably, could not use his hands, could not stand on his feet, could hardly eat because of the number of vesicles around his lips and was distressed on account of the general skin irritation.

Nervous prostration was very marked and the patient pitifully asked to be relieved of his suffering.

Opiates, bromides, chloral, absorbent powders, antiseptic lotions were tried with very little benefit.

Knowing that violet ray has been proven to have a place in the therapy of certain skin diseases, I suggested the use of a Menin violet ray lamp, 110 voltage.

Results were gratifying and beyond my expectation. Few minutes after exposure to the ray patient started to say: "Oh, it feels fine; oh, it is really a blessing; I wish that all my body could be treated at the same time; it is so soothing."

Patient felt very much relieved and he begged to have the apparatus left with him, which I did.

The following day I and the family physician visited the patient and to our surprise we noticed a marked improvement in the clinical picture. Patient reported that he slept well for the first time after five days and nights. He could hardly find suitable language by which to thank us for the almost immediate relief afforded him.

All vesicles were dried up and the patient could eat and was able to sit on a chair and move around a little.

The distinctive variola appearances had faded so much, in twelve hours' time, that it really seemed very remarkable.

The initial exposure to the light was of about three hours' duration applied to the whole body. Then patient went to sleep immediately after the treatment.

Treatments lasted for six days and patient applied them as often as he liked, without any rule as to time and duration.

The clinical observation warrants me in stating that—due to the violet ray action—the pustule stage was aborted.

With the exception of some small area, where the influence of the ray did not penetrate, the *restitutio ad integrum* has been satisfactory. Only very small invisible marks remain, at points where vesicles were in an advanced stage.

I saw this patient two days ago and it was hard for me to detect in him any trace of the disease.

The other two cases treated by me were more or less clinically identical. One case was at the seventh day of the disease; the other, at the fourth.

The treatment consisted of exposure to the action of the ray as often as the comfort of the patient required.

The lamp was kept distant from the surface of the body from five to nine inches, according to the tolerance of the patient.

Equally satisfactory results were obtained in the treatment of these other cases.

I devised a way of giving patients the benefit of the ray, simultaneously, all over the body. Three lamps of 110 voltage each were placed on a stand so that the exposed surface extended from the head to the feet.

In this way one lamp radiated the face and the upper part of the chest and extremities; one lamp the abdomen and hands, and the other the feet and thighs. As soon as the patient felt too much heat, and could not bear that sensation any longer, I advised him to turn and expose the other side and so on until relief was obtained.

The lamps were kept from five to nine inches from the surface to be treated, but during sleep I advised keeping the lamp at least one and one-half feet away from the surface of the body.

A large sheet covered the apparatus in order to avoid dispersion of the rays. Good effects were also obtained by using an ordinary single lamp. The only objection I have to make is that one must constantly change the position of the single lamp so that all regions can be treated.

The benefit of the triple combination is greater, because the patient does not need to make any effort in moving the lamp, thus preventing fatigue.

Conclusion: From the experience obtained in treating these three cases I believe that we

have in the violet ray a new and efficient weapon to combat the very distressing sensations caused by smallpox. Furthermore, a powerful agent has been found which, if applied before pustulation has occurred, will almost completely prevent the pox marks.

It seems that the earlier the ray is used the shorter the course of the disease will be, and the constitutional symptoms will be milder.

Considering the great relief which appeared to follow this very simple agent and the inexpensiveness of its application, I believe that this treatment will soon become general.

So far as literature on this subject is concerned, I failed to find any article dealing with the treatment of variola by means of violet ray ever before published.

## Medical Progress.

### PROGRESS IN SYPHILOLOGY.

By AUSTIN W. CHEEVER, M.D., BOSTON.

#### THREE CASES OF SYPHILITIC INFECTION DURING LABOR.

LEMHOLT<sup>1</sup> reports three cases of this condition, so far very rarely reported in the literature. In all three cases the fathers of the infants had acquired syphilis sometime during the last three months of the wives' pregnancies, the mothers developing symptoms of syphilis immediately preceding, during, or immediately after labor. Typical chancres developed on the infants' heads, followed by typical acquired infections.

#### REINFECTION IN SYPHILIS.

Recently there have been increasingly numerous reports of reinfection; Jeanselme and Althabegoity<sup>2</sup> report a case treated with 300 injections of benzoate of mercury and occasional injections of arsphenamin. Up to the time of the appearance of the second chancre, which was not at the site of the first, he had had five negative Wassermann tests. Treponemata were found in the new chancre. This seems to be a genuine case of reinfection.

#### EXPERIMENTAL SYPHILIS IN MAN.

Pinard and Leguignand<sup>3</sup> relate the case of a man who inoculated himself with syphilis in order to prove that he had not had it: a chancre appeared in which treponemata were found. He had 8.5 gm. of arsphenamin followed by a negative Wassermann reaction. After two failures he succeeded in inoculating himself again and producing a typical chancre in which treponemata were found, and followed by a papular rash and sore throat. He then had 0.6 gm. of arsphenamin weekly for ten out of twelve

months. Now having a negative Wassermann test, he tried four more times to inoculate himself, at last producing after thirty days a new chancre, followed by a papular syphilide.

#### THE RESISTANCE (OR IMMUNITY) DEVELOPED BY THE REACTION TO SYPHILITIC INFECTION AND SOME OF THE EFFECTS OF THE SUPPRESSION OF THIS REACTION.

Under this heading Brown and Pearce<sup>4</sup> describe their results in rabbits of removing the primary lesions; there was a considerable intensification of the disease. Carrying that reasoning over to the human, it would seem not only useless but probably even harmful to remove primary lesions.

#### EFFECT OF SUNLIGHT ON A SYPHILITIC EXANTHEM.

Much has been written about sunlight in tuberculosis, very little about sunlight in syphilis. Rasch<sup>5</sup> reports an interesting case of a girl with a lenticular syphilide which failed to appear on the face, neck, and parts of the chest which had been exposed to strong sunlight above a very décolleté gown. He thinks it is the actinic rather than the heat rays that are responsible for this, as it is well known that men exposed to heat, as stokers, have a marked exaggeration of these lesions on the exposed parts.

#### NEUROSYPHILIS WITH NEGATIVE SPINAL FLUID.

Solomon and Klauder<sup>6</sup> describe and discuss a group of cases of definite neurosyphilis with negative spinal fluids, fitting mostly into the group of vascular neurosyphilis, but also of syphilitic cerebral nerve palsies, cerebral gumma, syphilitic epilepsy, syphilitic spastic paraplegia, syphilitic psychoses. They state that it is often difficult to decide in these cases, which have negative spinal fluids yet with definite clinical evidence of central nervous system involvement, whether they are cases which at no time have positive fluids, and need and often react well to treatment, or whether they are "burned out" cases, cases of former activity, and really only cases of scarring, and consequently to be but little helped by any treatment.

#### SPINAL DRAINAGE WITHOUT LUMBAR PUNCTURE.

Corbus, O'Connor, Lincoln, and Gardner<sup>7</sup> have worked out a new application of the previously known fact that intravenous injections of hypertonic saline solutions cause an initial rise in the cerebro-spinal fluid, followed by a fall in this pressure often to below zero, followed by a gradual rise to normal. Apparently the increased osmotic properties of the blood plasma after the addition of the hypertonic solution causes fluid to be drawn rapidly into the bloodstream from all possible sources, including the cerebrospinal fluid.

The technic of the clinical application of this principle is as follows: patients were admitted about 8 A. M., prepared as usual for arsphenamin. At 10 A. M., 100 c.c. of 15% saline solution was given intravenously by the gravity method. Immediately following the injection, the patient is conscious of a feeling of warmth which gradually increases, but never to an uncomfortable degree, and lasts about ten minutes. No food was permitted at midday. After six hours, 0.9 gm. neoarsphenamin was given intravenously. At first all patients were kept in bed for thirty-six hours, but later some were permitted to go home by nine o'clock the same day. In none were there untoward complications. Lumbar puncture may be done without harm if one desires to study the spinal fluid.

#### VIABILITY OF SPIROCHAETES PALLIDA IN EXCISED TISSUE AND AUTOPSY MATERIAL.

Lacy and Haythorn<sup>8</sup> report the finding of motile spirochaetae in the blebs on a congenital syphilitic baby kept in a refrigerator twenty-six hours before autopsy; in excised chancre, seven days after removal; in serum from a chancre sealed and kept at room temperature, for 121 days; in saline suspension of rabbit's testicle, both at room temperature and in the refrigerator, for 58 days; inoculation of rabbits' testicles with some of these was positive after 24 hours; attempts at inoculation with completely dried syphilitic material were uniformly unsuccessful.

#### A STUDY OF THE SPINAL FLUID IN A LARGE SERIES OF CASES OF SYPHILIS IN ALL STAGES.

Wile and Marshall<sup>9</sup> present an analysis of 1869 cases of syphilis on whom lumbar puncture had been done, and bring out several interesting points, especially the strikingly high percentage of neurosyphilis in cases of syphilitic alopecia, iritis, and pigmentaries of the neck, about 70% to 73% in the first and second groups, about 55% in the third. In spite of the general belief that there is an inverse ratio between cerebrospinal involvement and other forms of syphilis, about 30% of the cases of late syphilides of the skin, bones, and viscera had definite central nervous system involvement. Another interesting point is the large percentage, about 28, of asymptomatic neurosyphilis in the indefinite latent stage.

#### A NEW LUMBAR PUNCTURE NEEDLE.

Hoyt<sup>10</sup> describes a new needle which is claimed on good theoretical grounds to prevent post lumbar puncture headaches. A needle with obturator similar to the usual type, fitting the Luer syringe, is used as usual up to the point of penetrating the meninges; then the obturator is withdrawn and a much finer needle fitting the Record syringe and enough longer to pene-

trate the meninges is introduced within the larger one. This should tear so small an opening in the meninges that the leakage would be slight or none. It may be used for intraspinal therapy as well.

#### EXPERIMENTAL STUDY OF THE LATENT SYPHILITIC AS A CARRIER.

Ebersson and Engman<sup>11</sup> have made some valuable contributions to the study of latency. From five cases which appeared to have been latent for from one to thirteen years and had either had no treatment at all or none for two years, the authors isolated by rabbit inoculation living treponemata from inguinal glands and semen. Blood and other body fluids failed to give positive results.

#### WASSERMANN TESTS WITH SECRETIONS, TRANSUDATES, AND EXUDATES IN SYPHILIS.

Klauder and Kolmer<sup>12</sup> found 3 positive Wassermann tests in 19 specimens of milk from known syphilites; 1 weakly positive in 20 specimens of saliva; 1 moderately positive in 30 specimens of seminal fluid; 5 doubtful tests in aqueous fluid from the anterior chamber of the eye; all of 11 specimens of exudates and transudates were positive; all surface fluids from a number of chancres were positive; all of a number of specimens of saline extract of syphilitic nodules from testicles of rabbits were positive.

#### THE WASSERMANN TEST PERFORMED WITH CHANCER FLUID AS AN AID TO THE EARLY DIAGNOSIS OF SYPHILIS.

Klauder and Kolmer<sup>13</sup> give their technique as follows: when possible they aspirated the surface fluid directly with a fine-tipped pipette similar to a medicine dropper; when not enough fluid could be obtained that way, they placed a few drops of physiological saline solution on the chancre and aspirated the whole fluid after a short time, getting thus a fluid of unknown concentration; yet the results were positive in twelve out of fourteen chancre fluids. Positive results were obtained in a chancre on which a mercurial had been used, making the dark field examination negative, and in which the blood Wassermann had not yet become positive. It is, therefore, a definite aid in the diagnosis of early syphilis.

#### SILVER ARSPHENAMIN.

The reports during the last year by American syphilologists have not been especially favorable to silver arspenamin. Guy and Jacob<sup>14</sup> report on their use of the drug in 100 cases and consider that silver arspenamin, weight for weight, is more toxic than arspenamin, and in the dosage ordinarily employed is a less effective spirochaetocide. Michelson and Siperstein<sup>15</sup> believe that it clears up clinical manifestations in smaller doses than others of the arspenamin

group, but are doubtful as to other advantages. Fordyce,<sup>16</sup> reasoning from the use of 1800 doses, considers silver arspenamin as a valuable drug because of its greater freedom from reactions, but is not ready to consider it any more curative than other arsenicals, though possibly more active in clearing up early lesions.

#### THE INFLUENCE UPON TOXICITY AND TRYpanocidal ACTIVITY OF SHAKING ACID AND ALKALINE SOLUTIONS OF ARSPHENAMIN AND SOLUTIONS OF NEOARSPHENAMIN IN AIR.

Schamberg, Kolmer, and Raiziss<sup>17</sup> carefully tested out the effect of shaking these drugs for one minute and for ten minutes longer than necessary to complete solution, and found that shaking both the acid and alkalinized solutions of arspenamin increased the toxicity and the trypanocidal activity; that one minute's extra shaking of neoarsphenamin increased the toxicity greatly without increasing the trypanocidal activity, while a ten minutes' extra shaking increased the toxicity enormously. Different lots and brands differed considerably as to their liability to oxidation.

#### KEEPING QUALITIES OF MARKET SAMPLES OF NEOARSPHENAMIN WHILE IN THE AMPOULE.

Roth, U. S. Public Health Service,<sup>18</sup> finds commercial neoarsphenamin relatively unstable in the ampoule and suggests that the date of manufacture should be placed on all ampoules and that neoarsphenamin be kept at icebox temperature.

#### HELIO-THERAPY IN SYPHILIS.

Hesse,<sup>19</sup> reasoning from the long known beneficial effect of sunlight in tuberculosis, feels that it should be of real use in syphilis: in correcting the anaemia which may be present, in avoiding the possible depressing effect of drug medication, in stimulating metabolism, possibly in helping to prevent involvement of the internal organs, as seems to be the case in tuberculosis. He suggests filling the gaps in drug treatment with heliotherapy.

#### A NEW TREATMENT OF SYPHILIS WITH TARTROBISMUTHATE OF SODIUM AND POTASSIUM.

Rabello<sup>20</sup> reports in the name of Levaditi, bismuth salts as efficacious in the treatment of syphilis. After experimenting on rabbits, he used on 110 human cases of syphilis in all stages subcutaneous and intramuscular injections of tartrobismuthate of sodium and potassium suspended in oil. The only untoward result (and this is frequent) is stomatitis, with an effect on the gums like that of lead poisoning, and closely resembling that of mercury, but much milder, preventable by proper precautions, and easily cured. The urine remains practically normal. He states that it has the



advantage over arsenical preparations of having less toxic effects and also of being prepared with less difficulty and, therefore, more economically. Insufficient time has as yet elapsed for the demonstration of a permanent cure, but the results up to date have been very striking as regards the disappearance of lesions and of spirochaetae. The medicament has been put on the market under the name of trepol, in boxes containing 12 ampoules; each of these contains a dose of 10 eg. per cubic centimetre, in an oily base. The doses are made in amounts of 3 and 2 cc. in a series of 6 injections, the first three containing 30 eg. and the last three containing 20 eg. of the salts of bismuth.

#### THE TREATMENT OF SYPHILIS BY MERCURY INHALATIONS.

Cole, Gericke, and Sollman<sup>21</sup> report on an investigation of mercury inhalation in syphilis, very carefully and thoroughly carried out and find that there is no advantage in this method of giving mercury; that it has, on the contrary, a serious disadvantage of indefinite dosage, and the special danger of respiratory irritation.

#### TREATMENT OF LATE SYPHILIS.

Stokes<sup>22</sup> in an excellently written paper on the treatment of late syphilis concludes as follows: The treatment of syphilis should not be parcelled out in segments, each self-sufficient and governed by its own laws. Just as we are finding that early syphilis is no longer localized, even at the earliest appearance of the primary lesion, so we shall find as the intensity of our study increases that late syphilis does not begin in the first decade, but in the first hour. Preventing the transmission of the disease in its earlier stages, and forestalling the individual tendency to complications based on the peculiarities of the strain of parasite, the host, and the method of treatment, is the whole problem of syphilis. Forestalling implies detection, so that an increasing diagnostic alertness, a development of methods for detecting the earliest and not the late signs of pathologic change in vital organs and tissues, is not mere diagnosis, but a part of effective treatment. For all our so-called prophylactic efforts, nothing will prevent the development of late complications in a certain group of patients who present the fatal combination of predisposed soil and tropic organism. It is equally true that an even smaller group of patients will master the infection for themselves, irrespective of our interference. Between these two extremes will come those whom we have radically cured, those whom we have managed to place in commensal relation to their infecting organism, those whose immunity we have broken by treatment measures whose potentialities for future harm as well as present good we do not yet understand, and those whom we have destroyed outright by treatment itself. The study of the interrelation of these groups

is one of the most complex problems of the medicine of today. Its solution will not be accomplished by a mental or physical separation of the various phases of syphilis and syphilo-therapy into air-tight compartments, each with its own technic, ideals and aims. Only that mode of approach will leave a significant impress on our future knowledge which envisages the entire disease, employs one or two methods in a large series of cases over a period of many years, records the results, and which, by lifelong observation and periodic complete re-examination, detects impending serious pathologic change, and evaluates in detail and with accuracy the response of parasite and host.

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- <sup>22</sup>Archiv. of Derm. and Syph., 4:6, Dec., 1921.

#### Book Reviews.

*The International Medical Annual. A Year Book of Treatment and Practitioner's Index.* Contributors: E. Wyllys Andrews, F.A.C.S., A.M., M.D., Chicago; James Berry, F.A.C.S.; Joseph Blomfield, O.B.E., B.A., M.D.; W. Langdon Brown, M.A., M.D., F.R.C.P.; John D. Comrie, M.A., M.D., F.R.C.P.E.; Carey F. Coombs, M.D., F.R.C.P.; William E. Fothergill, M.A., M.D.; Herbert French, C.B.E., M.A., M.D., F.R.C.P.; Ernest W. Hey Groves, M.S., M.D., F.R.C.S.; O. C. Gruner, M.D., M.R.C.S.; J. A. Hadfield, M.A., M.B., Ch.B.; L. W. Harrison, D.S.O., Brev.-Col., R.A.M.C., M.B., Ch.B., M.R.C.P.E.; C. Thurstan Holland, D.L., M.R.C.S., L.R.C.P.; J. Ramsey Hunt, M.D., New York; Robert Hutehison, M.D., F.R.C.P.; Frederick Langmead, M.D., F.R.C.P.; Arthur Latham, M.A., M.D., F.R.C.P.; A. E. J. Lister, Lt.-Col. I.M.S., M.B., B.S., F.R.C.S.; E. G. Graham Little, M.D., F.R.C.P.; J. P. Lockhart-Mummery, M.B., F.R.C.S.; Joseph Priestley,

B.A., M.D., D.P.H.; C. Sanford Read, M.D.; Sir Leonard Rogers, C.I.E., Lt.-Col. I.M.S., M.D., F.R.C.P., F.R.C.S., F.R.S.; John D. Rolleston, M.A., M.D.; James Sherren, C.B.E., F.R.C.S.; Sir John Thomson Walker, O.B.E., M.B., F.R.C.S.; Sir W. I. DeC. Wheeler, B.A., M.D., F.R.C.S.I., Andrew J. M. Wright, M.B., F.R.C.S. Associate Editors: CAREY F. COOMBS, M.D., F.R.C.P. (Medicine); A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S. (Surgery). Fortieth Year. 1922. New York: William Wood & Co.

*Preface.*—"In this, the fortieth volume of the Medical Annual, we have made some slight alteration in the arrangement of the contents which we think will be of convenience to our readers.

"The articles hitherto included under *Materia Medica* and *Therapeutics* have been incorporated in the body of the work and will be found in their alphabetical order. This includes the articles on *Radiotherapy*, *Electrotherapeutics*, *Non-Specific Protein Therapy*, and also the therapy of the hormones, which is considered under the title '*Endocrinology*.' Further reference to these methods will be found under the headings of the diseases in which they are employed.

"The Introduction gives a concise summary of the principal facts and correlates them, so that the reader can readily refer to the various reports on any subject which interests him, and also quickly gather what is being done in other departments.

"It has always been our aim that the Annual should not be a mere digest of the work of the year, but present it in the form of reviews by eminent physicians and surgeons, so that our readers may have the advantage of their special knowledge and experience; and also to publish original articles which will render information on subjects under discussion complete and up-to-date.

"We are grateful to the entire staff of writers who have so ably coöperated in carrying out our ideal of making the Annual of material and permanent use to our readers."

To those who are familiar with the International Medical Annual the present (1922) edition is simply an old friend returning, and welcome. To those, and there are still too many, who do not know it, both its form and substance, and the fact that it has been published annually for forty years, a careful examination and the almost inevitable subsequent purchase of it will bring a welcome and long-continued sensation of surprise, pleasure and "value received."

Having quoted rather extensively both from the title page and the preface of the book, the reviewer will content himself by saying that within its 500 well printed pages it contains a

surprisingly large number of facts, admirably set down by its thirty contributors; and besides this, the opinion and judgment of the contributors upon these facts which they have collected; the book covers almost the entire field of Medicine and is neither too large nor too heavy. Would that we had a much larger number of similar textbooks.

The type is small but sharp; the plates and cuts excellent, both in outline and color; the book is admirably bound.

*Transactions of the American Surgical Association.* Volume the Thirty-ninth. Edited by JOHN H. JOHNSON, M.D., Recorder of the Association. Printed for the Association. For sale by William J. Dornan, Philadelphia, 1921.

This volume, of familiar form, size and color, consists of fifty papers read before the annual meeting at Toronto in January, 1921.

About 300 of its 800 pages concern fractures. A large proportion of the remaining papers relate to abdominal conditions, and include Vaughan's case of successful ligation of the abdominal aorta, the patient being alive one and one-quarter years later, working ten hours a day as a bricklayer and occasionally going on a spree to vary the monotony of life in Washington, D. C., in general, and bricklaying in particular. Vaughan gives a brief synopsis of the nineteen cases in which the abdominal aorta has been tied since Sir Astley Cooper first performed the operation on June 25, 1917.

The transactions of the American Surgical Association are always of marked interest and of great value, because they present the results and opinions of the more mature group of the best American surgeons.

## Current Literature Department.

### ABSTRACTORS.

GERARDO M. BALDONI  
LAURENCE D. CHAPIN  
AUSTIN W. CHEEVER  
ISADOR COHNAT  
ERNEST M. DALAND  
HORACE GRAY  
ROBERT M. GREEN  
JOHN B. HAWES, 2d  
JOHN S. HODGSON  
FRED S. HOPKINS

CHESTER M. JONES  
CHARLES H. LAWRENCE  
HERMAN A. OSGOOD  
FRANCIS W. PALFREY  
EDWARD H. RISLEY  
WILLIAM M. SHEDDEN  
GEORGE G. SMITH  
JOHN B. SWIFT, JR.  
WILDER TILESTON  
BRYANT D. WETHERELL

### SUPPOSED POISONOUS QUALITIES OF THE GRANARY WEEVIL.

DEFIEL (*American Journal of Tropical Medicine*, Vol. ii, No. 3, May, 1922) as a result of extensive experimental work with animals, concludes that the granary weevil contains no cantharidin and cannot be used as a substitute for the blister beetle, and that there is no evidence to indicate that it is responsible for cases of poisonous flour.

[G. C. 8.]

## CHOLERA PROPHYLAXIS.

MACKIE and TRASLER (*Ind. Med. Gazette*, April, 1922) report results of laboratory studies of the cholera vibrio made during the British campaign in Mesopotamia. Special attention was given to the relation of the fruit season to the incidence of the disease. Experiments showed that the inside of unruptured fruit, ripe or unripe, is naturally sterile. The reaction of melons and of tomatoes was found to be strongly acid and that of cucumbers mildly acid at all stages of ripening. The temperature of these fruits is lower than that of the surrounding atmosphere by 14° F. in the case of the melon, 16° F. in the case of the cucumber, and 6° F. in the case of the tomato. Temperature regulation of fruit seems to depend on the physical condition of juiciness and porosity, so that fruit maintains its temperature in obedience to the same laws which determine that of cold-blooded animals. In any case, the temperature of the fruit in hot weather is favorable to the vitality of the cholera vibrio. Despite the natural acidity of the fruit, this organism is able to live and probably to multiply on the cut surface of a melon for as long as one week. It can be recovered from melons seven days and from cucumbers and tomatoes three days after they have been inoculated. Melon pulp appears to be a particularly suitable medium for the growth of cholera germs.

The writers conclude from their studies that troops should be advised as follows:

1. Undamaged melons, cucumbers and tomatoes may be eaten with safety.
2. Ruptured or damaged fruit, especially sliced melons which have been exposed to the dust and flies of the bazaar, should be strictly avoided.

[L. D. C.]

## THE TREATMENT OF YAWS.

VISWALINGAM (*Ind. Med. Gazette*, May, 1922) describes yaws as it occurs in Malaya and outlines its present-day treatment. This disease, which resembles syphilis in many ways, is caused by the *Treponema pertenue* and is spread by direct or indirect contact. Inoculation takes place on an abrasion or some other skin lesion anywhere on the body, and the primary lesion is an elevated papule which later becomes granulomatous. The scab wears off, leaving an ulcer and eventually a scar. This primary sore may last as long as two years.

The secondary manifestations appear in successive crops for several years. They consist of granulomata similar to the primary lesion and may cover the entire body. Ulcers may be seen about the lips, palate and pharynx and in the nose. There is dactylitis of the fingers and toes and chronic periostitis of the lower ends of the tibia, ulna, radius, humerus and phalanges. In some cases the joints are swollen and tender. Irregular fever is not uncommon.

Tertiary skin lesions are generally confined to the soles of the feet and palms of the hands, and consist of an exfoliative dermatitis with cracks and fissures. After desquamation the skin loses its pigment, leaving a condition resembling leucoderma. Gummata of the bones and skin sometimes ulcerate and leave deformities.

The prognosis of yaws is very good, as the disease can be arrested in all its stages. Novarsenobillon is the drug, and two or three intravenous injections are sufficient, the total adult dose being 0.9 gm. Toxic symptoms may develop after five days and should be watched for. They consist of purpuric spots, erythematous patches, epigastric distress, nausea, vertigo, and rarely collapse.

[L. D. C.]

## Miscellany.

## INFORMATION SERVICE OF THE ROCKEFELLER FOUNDATION.

THE International Health Board of the Rockefeller Foundation has entered into a co-operative arrangement with the Health Organization of the League of Nations whereby the Board will provide a sum not to exceed \$32,840 a year for a period of five years for the purpose of maintaining an international epidemiological intelligence service. The Board will also provide a sum not to exceed \$60,080 a year for three years to put into effect a scheme for the international exchange of public health personnel to be conducted under the auspices of the Health Organization of the League.

The Health Organization of the League of Nations was created in September, 1921. Its principal function at present is to conduct an international epidemiological information service and in general to promote international coöperation in the control of epidemic diseases. Incidentally it will advise the League in matters affecting health, and coöperate with the International Labor Organization in promoting industrial hygiene.

Since its establishment the intelligence service has kept all governments informed as to the status of epidemics of typhus, intermittent fever and cholera which have been sweeping westward from the famine-stricken regions of Russia. Negotiations among European governments looking to the adoption of sanitary conventions for the control of epidemic diseases have been initiated by the Health Organization and much progress has been made. It has also undertaken to promote the international standardization of vaccines and serums.

For the first time in the history of the world there is an agency for taking steps to control epidemics before they get out of hand. The intelligence service of the League of Nations is of vital importance to the people of all countries. It is expected that by the end of the five-year period for which funds have been provided by the International Health Board the epidemiological intelligence service will have become so efficient and valuable that the various national governments will regard it as indispensable and provide funds for its further maintenance.

The exchange of public health personnel is expected to reinforce the other activities of the Health Organization by promoting mutual acquaintance, understanding and good-will, on which effective international coöperation must be based. Interchange of health officials will be arranged not only for observation but for definite periods of service which will result in actual exchange of experience. The proposed system of exchanges will be put into effect first in Europe and may be extended as opportunity offers to other countries throughout the world.

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## VITAL STATISTICS OF MASSACHUSETTS FOR 1921.

THE report of the vital statistics of this state, as prepared by the secretary of the commonwealth and edited by the state registrar of vital statistics, has been issued. It is interesting to note that "Massachusetts was one of the first American states in which dependable registration was enforced." The earliest legislation in this state relating to this subject having been adopted by the Bay Colony in 1639. As late as 1880 only two states, Massachusetts and New Jersey, and the District of Columbia, together with a number of cities in non-registration states, were included in the registration area. The certificates of death throughout the registration area of this country are uniform. The death rates are based on a comparison of total deaths with the aggregate population. These rates vary according to the character of the population; for example, there is a higher rate among males than is found with females and where a community is largely made up of persons in those periods of life in which the death rate is normally high, the statistics vary accordingly. Other factors enter into the rates, such as the location of hospitals; for, a person sent from one locality to another for hospital treatment, who dies, swells the rate for the municipality in which the hospital is located and relieves the town from which he migrated.

Other factors, too numerous to mention in detail, also affect the comparative importance of rates in different sections and should be taken into account when studies are based on statistics.

Referring to the death rate in the registration area, the public health reports show a decline up to and including 1920, as follows:

The gross death rate from all causes in the original registration states declined from 17.2 per 1,000 in 1900 to 15.6 in 1910 and 13.9 in 1920, a decrease of 9.3 per cent. in the first decade and 10.9 per cent. in the second decade. If we take into consideration the fact that a secondary, but severe epidemic of influenza-pneumonia occurred in the early part of 1920, the indicated decline from 1910 to 1920 is less than it would have been had 1920 been a normal year. In 42 cities in the United States having a population of over 100,000, the excess death rate during the 1920 epidemic period from influenza-pneumonia alone was about 1.13 per 1,000. If the same excess may be presumed to have occurred in these original registration states, the death rate in 1920 would have been approximately 12.8 per 1,000, and the decline from 1910 would have been about 18 per cent.

The Massachusetts report shows a similar improvement, but the 1921 report for the whole area is not available for comparison with the 1921 report of Massachusetts.

**Number of Deaths and Death Rates in this State:** There was a decrease in the mortality of 1921 as compared with that of 1920, the number of deaths occurring during the calendar year 1921 being 47,780, a decrease, as compared with 1920, of 5,852. Based on the estimated population of 1921 of 3,885,836, these deaths correspond to a rate of 12.3 per 1,000 population, as compared with 13.9 in 1920. This rate for 1921 is the lowest ever recorded in Massachusetts.

During the last two ten-year periods the death rate of the commonwealth has fallen from 18.2 in 1900 and 16.2 in 1910, to 13.9 in 1920.

Of the 47,780 deaths in 1921, 7,005, or 14.7 per cent., were of infants under one year of age. It is a singular fact that even with infants the mortality is higher among males than is the case with females, the per cent. of male infant deaths being 58. No explanation has been given for this larger mortality in this class.

The winter months record the higher mortalities, March, January and February presenting the largest figures in the order named.

The infant mortality in 1921 was 75.9 per 1,000 live births, which is the lowest rate ever recorded in this state.

The highest proportion of deaths occurred in the early period of life, for 39.5 per cent. of all deaths under one year of age occurred in the first week, the first day showing a mortality of 19.2 per cent., and 79.9 per cent. of the infant deaths occurred in the first half year.

The causes of early death are prematurity, congenital debility, malformations or injuries

received at birth. These account for 77.5 per cent. of those infants that died less than one week after birth.

Of the 47,780 deaths, pneumonia was the cause of 4,200; heart disease, 7,197; tuberculosis, 3,867; apoplexy, 4,262; malignant tumors, 4,645; Bright's disease, 3,157; diphtheria and croup, 607. Typhoid fever fell to 119.

The number of deaths investigated by medical examiners is 6,368. Post mortem examinations were conducted in 621 of these cases.

Under classification of the puerperal state there were 580 deaths; of these there were 48 due to accidents of pregnancy, 20 to abortion, 11 to ectopic gestation; others under this title, 17; puerperal hemorrhage, 74; other accidents of labor, 92 Cesarean section, 35; other operations and instrumental deliveries, 18; unclassified under operations, 39; puerperal septicaemia, 178; puerperal phlegmasia alba dolens, embolus and sudden deaths, 56; puerperal albuminuria and convulsions, 131; and one following childbirth not defined.

In explanation of the sources of error in mortality statistics, it is claimed in the report that inaccuracy on the part of physicians is the chief element. In all probability if any considerable number of physicians were given an opportunity to express opinions, some criticism of the requirements outlined on the blanks would be submitted. The questions on the blanks are to some extent like those sometimes propounded by a lawyer to a witness, for it is not always possible for a physician to answer the questions and have the satisfaction of feeling that he has given all the information which he would like to impart. The suggestion also appears in this report that a physician may, at the request of the family of the decedent, deliberately withhold a statement of the true cause of death. If this is so, and it probably is believed to be so, or it would not appear in a public document, some person, official, or department, is blameworthy in allowing this source of error to be continued. Vital statistics are of vital importance and should be as nearly free from error as it is possible for human agents to make them so. Many changes have taken place in medical nomenclature and medical knowledge is being constantly revised and a return could be devised which would enable students of statistics to acquire accurate information. Under the present system the possibility of faulty interpretation exists, to some extent.

#### SCHOOL HEALTH SUPERVISION.

In the *American Journal of Public Health* for June, 1922, Dr. S. Josephine Baker presents a history of school medical inspection. Boston inaugurated the first system of this sort in 1894, which was designed to limit the spread of disease. This consisted of daily visits to schools

by physicians for the purpose of inspecting children suspected by the teacher of being infected by a contagious disease. Philadelphia adopted this custom in 1896 and New York a year later. In 1905 New York City adopted a program which included physical examination of school children for the purpose of discovering physical defects. This type of school work is required in five states and is permitted in 29. Some other states have school physicians that carry on through diplomatic means more or less work of this kind. These methods led up to health control of school children, including teaching of health habits, sometimes through officials and in some cases by voluntary organizations. The extent of physical examinations was determined in many instances by the amount of money appropriated, sometimes being repeated during school life, but few communities have ever appropriated enough money to make a reasonable number of examinations of all the pupils. Many authorities feel that every child should be carefully and thoroughly examined every year, but even where this requirement exists the examinations are seldom complete and are apt to consist of inspection rather than examination, for great expense is involved in general careful examination, so that for some time to come the real task is to get the best possible results within the appropriations.

Dr. Baker shows that reports indicate quite universally that 35 per cent. of the children of school age have one or more physical defects, such as malnutrition, defects of hearing, lung disease, hypertrophied tonsils, adenoid growths, and defective vision; and if defective teeth be added the percentage would be much higher, for it is found that among certain groups even 65 per cent. have defective teeth. Practically every child needs dental care during school life, so that oral hygiene should be an essential part of health work among this group.

It is obvious that in order to correct physical defects the detection should be early.

A study of 356,292 children of the city of New York shows that school life does not have a bad effect on defective hearing and pulmonary and cardiac diseases, but, on the other hand, nervous diseases and defective eyesight seem to become more frequent during school life.

The conclusions presented by Dr. Baker are as follows:

1. The most important physical examination to be made in the school life of the child is the one occurring at the time the child enters school for the first time.

2. In order to make the work of health supervision of school children effective, a complete physical examination of each child should be made before the 8-to-10-year period. If this can be done with 100 per cent. efficiency, combined with follow-up that is 100 per cent. effective and 100 per cent. of treatments obtained, it should not be necessary to make regular



physical examinations after the 8-to-10-year period, reliance being placed after that time upon the routine inspection of the children in the classroom. This routine inspection will permit the nurse, doctor or teacher to pick out the cases of physical defects that have been in any way overlooked during routine physical examinations or which have originated after the 8-to-10-year period.

3. An annual test for defective vision is desirable.

4. Unless the amount of money appropriated for school medical inspection is large enough to allow a complete and thorough physical examination each school year, the officials in charge of such work are not justified in spending any money in having physical examinations made after the 8-to-10-year period unless the full health needs of the children below that age period have been met.

5. A logical deduction that might be drawn from this study is that great emphasis should be placed hereafter upon the pre-school age period as the time when physical defects should be prevented or corrected.

6. To sum up the matter, this study would seem to show that the expenditure of time and money to make annual physical examinations of school children is not warranted and seems to be unnecessary. Analysis of the age and sex incidence of physical defects in this study shows that proper and adequate physical examinations made in the early life of the school child—that is, before the 8-to-10-year period—are essential, and if these are properly followed up and suitable treatment obtained, the appropriations for this work will be spent in the most economical way, the child's health will be more thoroughly protected, and future disease and the sequelae of physical defects be more adequately guarded against than by any of the present methods of school health supervision.

These conclusions will be a source of comfort to those persons who feel very strongly that physical examinations of children should be conducted upon entrance to the public schools. This plan is, however, a bone of contention, for certain of our people feel that the personal rights of the child should not be invaded through physical exposure, and by others that extension of state supervision of the health of children may lead to the development of plans covering some delicate problems of life and morals.

Although more attention to defectives and instruction in health matters will probably never lead the majority to favor attention to sex hygiene, that is so much feared by many, that progress must of necessity be slow until greater confidence in the wisdom of our school and health departments shall have been developed. It may be possible to interest large numbers of parents in the physical examination of children at regular intervals by the family phy-

sician. This course would be productive of good results and in time would bring about better average health among adults. It may be utopian to expect parents to provide for that kind of investigation for children which is not generally sought by adults for their own safety. By constantly dwelling on the importance of the scientific study of every individual a sufficient response may follow that will lead to better average conditions.

## THE STATE ASSOCIATION OF BOARDS OF HEALTH.

THE summer meeting of this organization was held at the Atlantic House, Nantasket, July 27. The meeting was presided over by Captain William J. Young, agent of the Springfield Board of Health. Three new members were elected. Dr. Champion of the State Department of Health outlined the program for maternal and infant welfare work. The plans for the future are for a continuation and amplification of the work which has been carried on for several years. There seems to be some misunderstanding relating to the nature and scope of the efforts made by the State Department, so that a recital of facts and purposes is pertinent at this time.

The Department has never been favorable to the benefit laws and practices of Italy, France, England and Germany; for the present policy of this state is not based on the insurance benefit plan but rather the dissemination of information and advice. In speaking of records relating to maternal and infant mortality the speaker spoke of the accuracy of the New Zealand records and added that Massachusetts' records are given high rank in Washington.

A review of attempts at legislation was given, and the opinion expressed that we do not need poor relief legislation relating to this class of patients in this state. He paid high tribute to Dr. Alfred Worcester and his committee and felt that the efforts of this group of public servants were not appreciated, because the time given to the commission was so short and the problem so complicated that service involved great concentration and sacrifice of time and strength. He did not feel that the Sheppard-Towner Act is the best solution of the problems involved.

In order to carry on the work Massachusetts has appropriated \$15,000 for four months' work and \$30,000 more for the remainder of a year, to be expended by the Division of Hygiene in the State Department of Health. Speaking of other states, reference was made to Maine, which has appropriated \$5000 for this work, but Rhode Island and Illinois have not acted thus far. New York has appropriated a very large amount, but has not seen fit to adopt the

Sheppard-Towner Act. The prosecution of this work means that in order to secure effective action local authorities must coöperate. Reference was made to the claim that maternal mortality has increased 70 per cent. in the last 16 years, and the need of better vital statistics was emphasized, for reports of deaths do not always convey the information sought.

The question was raised concerning the reasons for higher mortality rates, and certain facts relating to infant mortality were especially emphasized, for although there is a general claim that infant mortality is decreasing in Massachusetts, the mortality of early infant life remains the same and there has been no appreciable change in the number of stillbirths, for they vary only a fraction of one per cent. from year to year. The great outstanding factor relating to infant mortality seems to be ignorance of hygiene, and it is hoped that efforts which are to be made will reduce the mortality of infants, especially of those under one month. Great hope was expressed that the money secured through taxation would show satisfactory results soon.

Dr. Charles P. Sylvester, of the Hull Board of Health, distributed a pamphlet relating to the control of the mosquito nuisance.

There were 38 representatives of different boards present, but the attendance was not as large as on some previous occasions. It was felt that the meeting was instructive and stimulating.

#### THE EFFICIENCY OF ARSPHENAMINE AND NEOARSPHENAMINE.

ALTHOUGH arspenamine and neoarsphenamine have been in use for about twelve years, doubt has been expressed as to the relative efficiency of these remedies. Opinions of clinicians have been published, but have not been supported by scientific experiments which are conclusive. The difficulties incident to a comparison of the parasitocidal power of these agents, when used on human subjects, are very great, but the importance of the question involved has led Carl Voegtlin, Professor of Pharmacology, and D. W. Miller, Scientific Assistant, U. S. Public Health Service, to make an experimental study of the value of these two compounds. They used rats infected with the *trypanosoma equiperdum*. This is the parasite which causes the so-called horse syphilis and which produces a chronic disease with a definite pathology. Albino rats quickly succumb to infections by this parasite, the multiplication of the parasites proceeding almost according to a fixed rate, as shown by a double number in approximately seven hours. A given dose of the drug may be depended upon to kill a certain number of parasites. The tests were applied to 13 lots of arspenamine and 15 lots of neoars-

phenamine. The results showed that the parasitocidal power of arspenamine of different manufacture is remarkably constant, but that there was a great variation in the results obtained by the use of neoarsphenamine.

In the report reference is made to the work of Dale and White of the National Institute of Medical Research in London, in which a record is given of the use of mice, which is confirmatory of the conclusions which are formulated by Voegtlin and Miller, as follows

1. The results obtained in this investigation confirm previous data from this laboratory to the effect that arspenamine of different manufacture is fairly uniform in parasitocidal power, whereas neoarsphenamine shows great variations.

2. The toxicity of the average commercial arspenamine and neoarsphenamine manufactured at the present time is considerably lower than that of preparations found on the market two years ago.

The full account of the technic employed may be found in The Public Health Reports under date of July 7, 1922.

#### RURAL HEALTH SERVICE.

THE Rural Sanitation Office of the United States Public Health Service reports that there are 203 counties throughout the United States that have a local health service under the administration of whole-time county or district health officers. Massachusetts is listed as having only one and that is in the Cape Cod District. The rural population of Massachusetts is recorded as 202,108, of which 11,558 have this service. The further statement is made that only 5.71 per cent. of our people are thus served. Like many statistics, these figures are to some extent misleading, for the casual reader, unfamiliar with conditions in this state, would not know that the State Department of Health, through its seven district health officers, pays attention to rural health problems. It may be that better results would be secured if all counties would provide a full-time health officer acting in association with our district health officers, but the present system is certainly efficient to a large degree.

#### CHIROPRACTORS ADVERTISING IN CHURCHES.

Two Methodist churches, one in Elkhart and one in Fort Wayne, Indiana, have given the chiropractors the use of their edifices for propaganda purposes. This is a clever move. Any quack could appeal to an audience of medically uneducated persons and make fools of a certain proportion. Claims of successful treatment

of diseases have enriched pretenders from the earliest times. The ability to analyze and apply sound reasoning to problems of daily life is denied to many. The associations of church life carry a certain endorsement of views presented to some minds. This is an illustration of the use of good material for unholy purposes. In the East we expect the chiropractors to use all possible means for the purpose of securing endorsement, but we cannot conceive of the possibility of lending churches to advancing the interests of the cults in this state. When the campaign for legalizing the chiropractors is inaugurated in this state we trust that average intelligence will not permit deterioration of holy places.

#### NEWS ITEMS.

**THE executors of the estate of Dr. Edward H. Nichols** have arranged with Dr. Thomas K. Richards, who has been for the last three years Dr. Nichols' associate and assistant, to continue the practice of Dr. Nichols at 294 Marlboro Street.

**INFANTILE PARALYSIS.**—Thirty-five cases have been reported in Rhode Island, with six deaths. The State Board of Health is actively at work to prevent further spread of the disease.

**WEEK'S DEATH RATE IN BOSTON.**—During the week ending July 29, 1922, the number of deaths reported was 152, against 203 last year, with a rate of 10.38. There were 23 deaths under one year of age, against 29 last year.

The number of cases of principal reportable diseases were: Diphtheria, 32; scarlet fever, 17; measles, 38; whooping cough, 31; typhoid fever, 4; tuberculosis, 44. Included in the above were the following cases of non-residents: Diphtheria, 2; scarlet fever, 2; tuberculosis, 8.

Total deaths from these diseases were: Scarlet fever, 2; typhoid fever, 1; tuberculosis, 12. Included in the above were the following cases of non-residents: Scarlet fever, 1; typhoid fever, 1.

**THE WINTHROP HOSPITAL.**—The successful completion of the drive for a total of \$35,000 for the Winthrop Community Hospital was celebrated by a dinner and reception at the Cliff House, Winthrop Highlands, July 31 last. This money will be used in purchasing the Dr. Metcalf hospital and providing for its equipment.

**DEATH IN SERVICE.**—Laboratory Assistant William E. Gettinger, United States Public Health Service, died at Hamilton, Mont., June 30, 1922, of Rocky Mountain spotted fever, contracted while in line of duty and engaged in laboratory work in connection with the investi-

gation of that disease, known to be one of the most fatal of diseases when contracted in the laboratory.

**FORTY-FIFTH ANNUAL REPORT OF THE ADAMS NERVE ASYLUM.**—The managers of this institution report a successful year. The Asylum, which was founded for the benefit of indigent, debilitated, nervous people who are not insane, has rendered service this year to 195 patients, of whom 51 were treated free. The daily average number of patients was 32. It is encouraging to note that the cost of running the Asylum was about \$6,000 less than previous years.

**CHANGE OF OFFICE.**—Dr. Joe Vincent Meigs has removed his office to 286 Marlborough Street, Boston.

**SUSPENSION OF DR. JOSEPH LEVEK.**—The Board of Registration in Medicine conducted hearings August 2, 1922, for the consideration of complaints against four physicians in which gross unprofessional conduct was alleged. Three of the cases were brought to the attention of the Board by Federal prohibition agents and related to alleged irregularities in connection with prescriptions for alcoholic liquors. The Board dismissed one case and postponed action in two others of this class.

The most important hearing was held because of complaints filed by physicians of Lawrence, who felt that the defendant, Dr. Joseph Levek, of 32 Lawrence Street, Lawrence, Mass., an associate on a hospital staff, had improperly treated a person. The Board suspended the registration of Dr. Levek for one year. Complaint has been entered in court at Lawrence and Dr. Levek is held in \$3,000 bonds for further court proceedings August 15, 1922. The probability of a trial makes further reference to this case at this time improper.

#### The Massachusetts Medical Society.

##### MEMBERSHIP CHANGES FOR THE MONTH OF JULY, 1922.

OFFICIAL LIST (6TH).

Compiled by the Secretary.

##### ALPHABETICAL LIST.

- Atchison, Charles M., New Bedford, now 459 Mill St.  
 Baker, Leonard Allen, Middleboro, office now Sullivan Building.  
 Begg, Alexander S., from Jamaica Plain to West Roxbury, office Boston, 80 East Concord St.  
 Bessey, Earle E., Waban (Newton), now 1690 Beacon St.  
 Blackway, Charles E., Fall River, now 132 Franklin St.  
 1905-1922—Brennan, Thomas Joseph, Little Compton.  
 R. L., office Fall River, 151 Rock St.

- Brigham, F. Gorham, from Suffolk to Norfolk, Brookline, office Boston, 35 Bay State Road.
- Brittingham, Harold N., from Roxbury to Cleveland, Ohio, 2753 Euclid Heights Boulevard.
- Burnett, Joseph H., now Boston, 483 Beacon St.
- Brown, Lloyd T., from Suffolk to Norfolk, Milton, office Boston, 372 Marlborough St.
- Carr, Earl B., from Melrose to Montrose, Minn.
- Chronquest, Alfred P., from West Roxbury to New York, the Bronx, U. S. Vets. Hosp. No. 81.
- Cobb, Farrar, from Suffolk to Norfolk, Brookline, office Boston, 419 Boylston St.
- Cody, Peter White, died at Lawrence, July 15, 1922, aged 64.
- Cunningham, Allan R., Boston, now 483 Beacon St.
- Cunningham, John Henry, from Suffolk to Norfolk, Brookline, office Boston, 46 Gloucester St.
- Curtis, Harlan F., from McCook, Nebraska, to Charles City, Iowa.
- Cusick, Laurence Francis, Nahant, office now Boston, 320 Marlborough St.
- Cushing, Arthur A., Brookline, now 100 Sewall Ave.
- Cutter, Irving Taylor, from Winchester to San Antonio, Texas, Moore Building.
- Darling, Charles B., from Norfolk to Middlesex South, Roxbury to Waban, office Boston 483 Beacon St.
- Day, Hilbert F., from Suffolk to Middlesex South, Cambridge, office Boston, 45 Bay State Road.
- De Wolf, Charles W., Wakefield, office Boston, now 358 Commonwealth Ave.
- Dix, George A., Worcester, now 6 Ashland St.
- Emery, Edward S., Jr., Brookline, office Roxbury, Peter Bent Brigham Hospital.
- Favaloro, John, from Middlesex North (Lowell) to Essex South, Lynn, 275 Summer St.
- Ferrin, William W., Haverhill, now 77 Emerson St.
- Fiske, Eustice Lyman, from Fitchburg (Worcester North) to Croton-on-Hudson, N. Y.
- Fitz, Reginald, from Mayo Clinic, Rochester, Minn., to Roxbury, Peter Bent Brigham Hospital.
- Foley, John Arthur, from Suffolk to Norfolk, Dorchester, office Boston, 514 Commonwealth Ave.
- Forsley, Thomas, Jr., Lowell, now 308 Merrimack St.
- Gilpatrick, Roy Hawkes, from Suffolk to Middlesex South, Brighton, office Boston, 19 Bay State Road.
- Goethals, Thomas R., from Suffolk to Norfolk, Brookline, office Boston, 443 Beacon St.
- Harris, Paul L., from Lowell to Ellis Island, N. Y., Marine Hosp. No. 43.
- Haywood, Ralph W., Salem, now 24 1-2 Winter St.
- Hooper, George Henry, Boston, now 722 Commonwealth Ave.
- Horr, Albert W., from Suffolk to Middlesex South, Malden, office Boston, 419 Boylston St.
- Hubbard, Eliot, Jr., from Suffolk to Norfolk, Roxbury, office Boston, 74 Bay State Road.
- Iovanna, Nicholas, from Boston to Revere, office Boston, 256 Hanover St.
- Keenan, George F., Boston, now 207 Bay State Road.
- Kelley, Henry Joseph, Beverly, now 25 Broadway.
- Kershaw, George H., Fall River, now 163 Stafford Road.
- Kleinert, Margaret Noyes, from Suffolk to Norfolk, Jamaica Plain, office Boston, 82 Commonwealth Ave.
- Lewis, Frank Edward, Nantucket, now 2 Chestnut St.
- Libby, Edward N., from Roxbury to Jamaica Plain, office Boston, 638 Beacon St.
- Linnenthal, Harry, from Roxbury to Brookline, office Boston, 45 Bay State Road.
- Livingston, William K., from Boston to Eugene, Oregon, Univ. of Ore. Health Service.
- Lurie, Moses Hyman, from Suffolk to Norfolk, Roxbury, office Boston, 483 Beacon St.
- Lyman, Henry, Brookline, office Roxbury, Huntington Memorial Hospital.
- Lyons, Joseph Benedict, died at Charlestown, July 18, 1922, aged 51.
- McCarthy, Eugene A., Fall River, now 422 North Main St.
- MacDonald, William Joseph, Boston, now 9 Massachusetts Ave.
- McKittrick, Leland S., from Suffolk to Norfolk, Brookline, office Boston, 520 Commonwealth Ave.
- McLellan, William Edwin, from Lynn to Buffalo, N. Y., U. S. P. H. S. Marine Hosp.
- Mandell, Augustus H., New Bedford, office now 101 School St.
- Mason, William, Fall River, now 151 Rock St.
- Mathewson, Frank W., New Bedford, office now 98 Spring St.
- Maynard, Herbert E., from Suffolk to Middlesex East, Winchester, office Boston, 178 Commonwealth Ave.
- Mitchell, William, from Needham Highlands to Needham Heights, 511 Highland Ave.
- Milward, Francis W., Cleveland, Ohio, now 11636 Detroit Ave.
- Morrison, William Reid, from Suffolk to Middlesex South, Brighton, office Boston, 527 Beacon St.
- Myse, Philip, from Suffolk to Norfolk, Roxbury, office Boston, 259 Hanover St.
- Nowell, Howard W., from Suffolk to Norfolk, Brookline, office Boston, 416 Marlborough St.
- Nute, Albert James, from Suffolk to Norfolk, Jamaica Plain, office East Boston, U. S. Immigration Station.
- O'Brien, John Francis, Taunton, now 632 Somerset Ave.
- Odeneal, Thomas F., Beverly, now 37 Abbott St.
- Ormsby, Edward B., from Suffolk to Norfolk, Milton, office Boston, 350 Commonwealth Ave.
- Palmer, George Monroe, died at Lynn, July 21, 1922, aged 59.
- Papen, George William, from Suffolk to Middlesex South, Allston, office Boston, 520 Commonwealth Ave.
- Parker, Frederick D., Brookline, now 37 Claflin Road.
- Parker, Willard S., from Suffolk to Middlesex South, Watertown, office Boston, 483 Beacon St.
- Phaneuf, Louis E., from Suffolk to Norfolk, Brookline, office Boston 514 Commonwealth Ave.
- Pierce, Appleton Howe, from (Worcester North) Leominster to (Norfolk) West Roxbury, U. S. Vets. Hosp. No. 44.
- Provost, Raoul G., New Bedford, now 119 Hillman St.
- Raeder, Oscar J., from Neuilly-sur-Seine, France, to Roxbury, 74 Fenwood Road.
- Rice, Robert, died at Haverhill July 9, 1922, aged 52.
- Richards, Thomas K., from Suffolk to Middlesex South, Cambridge, office Boston, 294 Marlborough St.
- Richardson, Oscar, from Suffolk to Norfolk, Roxbury, office Boston, Mass. General Hospital.
- Risley, John N., New Bedford, now 271 Union St.
- Robbins, Elmer E., Jr., New Bedford, now 449 Pleasant St.
- Root, Howard Frank, from Roxbury to Brookline, 10 Wellman St.
- Sawyer, Howard P., Fall River, office now 122 Purchase St.
- Seaver, Edwin P., Jr., New Bedford, now 7 North Sixth St.
- Sedgley, Frank Robert, from Staten Island, N. Y., to St. Paul, Minn., U. S. Vets. Hosp. No. 65.
- Segall, Samuel K., New Bedford, now 179 William St.
- Senecal, Raymond E., New Bedford, now 310 Sawyer St.
- Shedden, William M., West Newton, office Boston, 87 Marlborough St.

Simpson, Charles Moffett, Boston, now 98 Queensberry St.  
 Solomon, Harry C., Jamaica Plain, office now 270 Commonwealth Ave.  
 Sylvester, Charles Porter, Boston, now 890 Beacon St.  
 Smith, Laurence Weld, from Brookline to Manila, P. I., University of the Philippines.  
 Stein, Louis C., Boston, now 353 Commonwealth Ave.  
 Stone, Moses J., Dorchester, office now State Infirmary, Tewksbury.  
 Ullian, Louis Joseph, from Suffolk to Norfolk, Roxbury, office Boston, 68 Bay State Road.  
 Vershbow, Nathan, Hartford, Conn., now 28 Sisson Ave.  
 Webber, Isaac Mervyn, from Worcester to South China, Maine, P. O. Weeks Mills, Me.  
 Wright, James Homer, from Suffolk to Middlesex South, Newton Center, office Boston, Mass. Gen'l Hospital.

#### ADDRESSES UNKNOWN.

Azadian, David George.  
 Kelley, Robert Edward Stack.  
 Lawlor, John Charles.  
 McClintock, Elsie.  
 McConnell, David James.  
 O'Donnell, George Thomas.  
 Seibels, Robert Emmett.  
 Whitcomb, Clarence Adelbert.

Changes of address should be sent to the Secretary,  
 Dr. Walter L. Burrage, 42 Eliot Street, Jamaica Plain 30.

### Correspondence.

#### WALTER REED GENERAL HOSPITAL OFFERS A COURSE IN PHYSIOTHERAPY

Mr. Editor:

A course in physiotherapy, covering a period of one year will be offered at Walter Reed General Hospital, Washington, D. C., beginning Oct. 2, 1922. Credit will be given for previous training in Physical Education, Nursing, Physiology and Anatomy, so that the course may be completed in six months or even less. The schedule of subjects included all branches of physiotherapy, and, in addition, lectures in general hospital subjects.

Accepted candidates will be listed as student aides, and will be furnished quarters, rations, laundering of uniforms, and, in addition, \$15 per month. No tuition fees are required.

Graduates will be eligible for positions in the Physiotherapy Department in army hospitals, and are expected to serve one year. Graduate aides in army hospitals are provided quarters, rations, laundering of uniforms, and are paid a base salary of \$60 per month, plus a Congressional Bonus of \$20 per month.

Application blanks will be mailed on request.

K. F. KESMDEL,  
*Major, Med. Corps, U. S. Army,*  
*Acting Director of Physiotherapy.*

#### RECENT DEATHS

DR. GEORGE HENRY TALBOT, a member of The Massachusetts Homeopathic Medical Society, died at his home in Newtonville July 28, 1922, at the age of sixty-three. He was born in Norwood, graduated at Boston University School of Medicine in 1882 and settled in practice in Bellows Falls, Vt. There he met his wife, Jessie E. Talbot. Moving to Newtonville in 1888, he became a member of the staff of the Newton hospital. During the war he took the practice of a younger practitioner who went to the front.

During that time Dr. and Mrs. Talbot assisted the Red Cross, turning over their house as a headquarters for the local chapter. In addition to his wife he is survived by two daughters.

DR. FREDERICK AUGUSTUS DAVIS, a member of the Massachusetts Homeopathic Medical Society and of the American Institute of Homeopathy, died at his home in Boston July 29, 1922, after an illness of four weeks. He was born in Ellsworth, Me., March 24, 1861, and graduated from the Hahnemann Medical College and Hospital, Philadelphia, in 1884, settling in practice in Belfast, Me. After moving to Boston in 1889 he was connected with the Homeopathic Dispensary and with the Boston University School of Medicine, where he was a lecturer on diseases of the stomach. At one time Dr. Davis was president of the Boston Surgical and Gynecological Society. He was a Mason, an Odd Fellow, and a Knights Templar. His wife, who was Susie Blaisdell Goodell of Boston, and one son survive him.

#### MEDICAL MEETINGS

The JOURNAL would like to publish a schedule of all medical meetings in this state and others of general interest.

A previous announcement of the plan has not led secretaries of societies to send in data to any great extent. It has happened quite often in the past that notices to members of societies have been lost or forgotten and subsequent reference to a meeting has made a member regret that lapse of memory led to non-attendance. It has also happened that two meetings have been scheduled for a given date and the inability to attend both has been disappointing. A publication of dates may lead to the selection of days which may be free.

#### PRENDERGAST PREVENTORIUM

The executive committee of the Boston Tuberculosis Association has issued invitations for visits to the Preventorium August 15 from 4 to 7 p. m. Tea will be served and visitors are asked to bring a lunch. The Preventorium is on Harvard and Ashland streets, Mattapan. Take Elevated to Forest Hills and change to Milton car.

#### BOOKS AND PAMPHLETS RECEIVED

MERCK'S SPECIALTIES. A list of therapeutic agents with notes as to special usage, dosage, etc. (Among the newer drugs listed in this pamphlet are "Eucupin," "Vuzin," and other compounds related to quinine which have been attracting some attention in Europe recently.) Copies may be obtained free of charge by addressing Merck & Co., 45 Park Place, New York City.

#### REPORTED TO MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH.

Week Ending July 22, 1922.

Disease.	No. of Cases.	Disease.	No. of Cases.
Anterior poliomyelitis	7	Pneumonia, lobar	17
Chicken-pox	24	Scarlet fever	32
Diphtheria	90	Syphilis	32
Dog-bite requiring antirabic treatment	10	Septic sore throat	1
Encephalitis lethargica	1	Suppurative conjunctivitis	5
German measles	6	Trachoma	2
Gonorrhea	113	Tuberculosis,	
Malaria	1	pulmonary	138
Measles	227	Tuberculosis,	
Mumps	37	other forms	19
Ophthalmia neonatorum	18	Typhoid fever	25
Pellagra	1	Whooping cough	112